

Uncertainty budget for ASTAR, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05
Wavelength	1.00e-05	5.00e-06	3.00e-06	1.00e-06	5.00e-06	3.00e-06	3.00e-06	1.00e-06
Stray Light	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06
Beam Size & Position	2.76e-04	2.76e-04	2.76e-04	2.76e-04	2.76e-04	2.76e-04	2.76e-04	2.76e-04
Filter Instability	1.10e-04	1.12e-04	9.90e-05	7.90e-05	6.80e-05	5.60e-05	6.10e-05	6.20e-05
Total Type B Uncertainty	2.99e-04	2.99e-04	2.95e-04	2.89e-04	2.86e-04	2.83e-04	2.84e-04	2.84e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	9.80e-05	1.62e-04	4.40e-05	1.31e-04	7.80e-05	1.59e-04	1.36e-04	1.84e-04
Total Uncertainty	3.15e-04	3.41e-04	2.98e-04	3.17e-04	2.96e-04	3.25e-04	3.15e-04	3.39e-04
Degrees of Freedom	210.0	39.0	4.14e+03	68.0	410.0	35.0	57.0	23.0

Uncertainty budget for ASTAR, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	1.00
Wavelength	1.00e-05	5.00e-06	3.00e-06	1.00e-06	5.00e-06	3.00e-06	3.00e-06	1.00e-06	0.50
Stray Light	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	1.00
Beam Size & Position	2.76e-04	2.76e-04	2.76e-04	2.76e-04	2.76e-04	2.76e-04	2.76e-04	2.76e-04	0.50
Filter Instability	1.10e-04	1.12e-04	9.90e-05	7.90e-05	6.80e-05	5.60e-05	6.10e-05	6.20e-05	0.0
Total Type B Uncertainty	2.99e-04	2.99e-04	2.95e-04	2.89e-04	2.86e-04	2.83e-04	2.84e-04	2.84e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	6.20e-05	8.00e-05	2.28e-04	3.08e-04	3.84e-04	1.38e-04	2.12e-04	4.10e-04	
Total Uncertainty	3.05e-04	3.10e-04	3.73e-04	4.22e-04	4.79e-04	3.15e-04	3.55e-04	5.00e-04	
Degrees of Freedom	1.17e+03	449.0	14.0	7.0	5.0	54.0	16.0	4.0	

Uncertainty budget for ASTAR, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05
Temperature	3.10e-05	5.30e-05	2.50e-05	5.50e-05	3.10e-05	2.10e-05	1.90e-05	2.60e-05
Wavelength	1.28e-03	7.80e-05	4.40e-05	7.00e-05	9.50e-05	8.80e-05	6.40e-05	3.30e-05
Stray Light	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06
Beam Size & Position	1.23e-04	1.83e-04	1.86e-04	1.83e-04	1.92e-04	1.80e-04	1.50e-04	1.35e-04
Filter Instability	2.31e-04	1.29e-04	1.33e-04	7.20e-05	6.50e-05	1.02e-04	8.20e-05	4.80e-05
Total Type B Uncertainty	1.30e-03	2.45e-04	2.36e-04	2.18e-04	2.28e-04	2.28e-04	1.86e-04	1.52e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.60e-05	9.30e-05	4.10e-05	7.70e-05	1.17e-04	8.40e-05	7.70e-05	1.66e-04
Total Uncertainty	1.30e-03	2.62e-04	2.40e-04	2.31e-04	2.56e-04	2.43e-04	2.01e-04	2.25e-04
Degrees of Freedom	9.82e+07	127.0	2.36e+03	160.0	46.0	137.0	94.0	7.0

Uncertainty budget for ASTAR, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	1.00
Temperature	3.10e-05	5.30e-05	2.50e-05	5.50e-05	3.10e-05	2.10e-05	1.90e-05	2.60e-05	1.00
Wavelength	1.28e-03	7.80e-05	4.40e-05	7.00e-05	9.50e-05	8.80e-05	6.40e-05	3.30e-05	0.50
Stray Light	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	1.00
Beam Size & Position	1.23e-04	1.83e-04	1.86e-04	1.83e-04	1.92e-04	1.80e-04	1.50e-04	1.35e-04	0.50
Filter Instability	2.31e-04	1.29e-04	1.33e-04	7.20e-05	6.50e-05	1.02e-04	8.20e-05	4.80e-05	0.0
Total Type B Uncertainty	1.30e-03	2.45e-04	2.36e-04	2.18e-04	2.28e-04	2.28e-04	1.86e-04	1.52e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.70e-05	9.40e-05	4.40e-05	4.50e-05	1.34e-04	6.80e-05	3.20e-04	5.90e-05	
Total Uncertainty	1.30e-03	2.62e-04	2.40e-04	2.22e-04	2.65e-04	2.38e-04	3.70e-04	1.63e-04	
Degrees of Freedom	6.50e+07	122.0	1.83e+03	1.17e+03	30.0	304.0	4.0	117.0	

Uncertainty budget for ASTAR, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	5.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05
Temperature	7.00e-06	4.50e-05	2.10e-05	4.10e-05	3.60e-05	2.10e-05	1.40e-05	1.50e-05
Wavelength	2.54e-04	1.04e-04	3.70e-05	2.10e-05	1.47e-04	5.20e-05	3.70e-05	1.60e-05
Stray Light	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06
Beam Size & Position	9.00e-06	3.00e-05	3.00e-05	2.40e-05	5.10e-05	4.50e-05	3.30e-05	2.40e-05
Filter Instability	3.30e-05	2.60e-05	1.00e-05	7.00e-06	0.0	2.60e-05	2.30e-05	1.20e-05
Total Type B Uncertainty	2.61e-04	1.24e-04	6.10e-05	6.10e-05	1.62e-04	8.20e-05	6.40e-05	4.60e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.40e-05	2.40e-05	7.00e-06	1.00e-05	1.30e-05	2.70e-05	1.60e-05	3.50e-05
Total Uncertainty	2.61e-04	1.26e-04	6.10e-05	6.10e-05	1.63e-04	8.60e-05	6.60e-05	5.80e-05
Degrees of Freedom	2.72e+05	1.44e+03	1.49e+04	2.69e+03	4.57e+04	215.0	520.0	15.0

Uncertainty budget for ASTAR, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	5.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	1.00
Temperature	7.00e-06	4.50e-05	2.10e-05	4.10e-05	3.60e-05	2.10e-05	1.40e-05	1.50e-05	1.00
Wavelength	2.54e-04	1.04e-04	3.70e-05	2.10e-05	1.47e-04	5.20e-05	3.70e-05	1.60e-05	0.50
Stray Light	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	3.00e-06	1.00
Beam Size & Position	9.00e-06	3.00e-05	3.00e-05	2.40e-05	5.10e-05	4.50e-05	3.30e-05	2.40e-05	0.50
Filter Instability	3.30e-05	2.60e-05	1.00e-05	7.00e-06	0.0	2.60e-05	2.30e-05	1.20e-05	0.0
Total Type B Uncertainty	2.61e-04	1.24e-04	6.10e-05	6.10e-05	1.62e-04	8.20e-05	6.40e-05	4.60e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.60e-05	2.40e-05	2.20e-05	4.20e-05	4.50e-05	4.90e-05	5.40e-05	4.80e-05	
Total Uncertainty	2.61e-04	1.26e-04	6.50e-05	7.40e-05	1.68e-04	9.50e-05	8.40e-05	6.60e-05	
Degrees of Freedom	1.32e+05	1.49e+03	147.0	18.0	383.0	29.0	12.0	7.0	

Uncertainty budget for ASTAR, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.40e-06	5.00e-06	3.90e-06	4.00e-06	6.90e-06	7.90e-06	7.30e-06	6.90e-06
Temperature	3.00e-07	5.60e-06	4.00e-06	8.50e-06	1.22e-05	8.20e-06	5.10e-06	5.30e-06
Wavelength	8.50e-06	1.26e-05	6.80e-06	4.30e-06	4.80e-05	2.01e-05	1.35e-05	5.40e-06
Stray Light	1.00e-07	3.00e-07	4.00e-07	4.00e-07	7.00e-07	8.00e-07	7.00e-07	7.00e-07
Beam Size & Position	2.00e-07	2.30e-06	3.90e-06	3.80e-06	1.17e-05	1.42e-05	1.01e-05	7.40e-06
Filter Instability	0.0	3.60e-06	2.10e-06	2.00e-06	5.60e-06	8.30e-06	4.90e-06	2.40e-06
Total Type B Uncertainty	8.60e-06	1.53e-05	9.90e-06	1.12e-05	5.17e-05	2.83e-05	1.97e-05	1.29e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	7.40e-06	2.70e-06	2.00e-07	2.00e-07	2.00e-06	9.70e-06	8.80e-06	6.30e-06
Total Uncertainty	1.13e-05	1.55e-05	9.90e-06	1.12e-05	5.18e-05	2.99e-05	2.16e-05	1.44e-05
Degrees of Freedom	11.0	2.21e+03	5.67e+06	1.34e+07	9.12e+05	184.0	72.0	53.0

Uncertainty budget for ASTAR, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.40e-06	5.00e-06	3.90e-06	4.00e-06	6.90e-06	7.90e-06	7.30e-06	6.90e-06	1.00
Temperature	3.00e-07	5.60e-06	4.00e-06	8.50e-06	1.22e-05	8.20e-06	5.10e-06	5.30e-06	1.00
Wavelength	8.50e-06	1.26e-05	6.80e-06	4.30e-06	4.80e-05	2.01e-05	1.35e-05	5.40e-06	0.50
Stray Light	1.00e-07	3.00e-07	4.00e-07	4.00e-07	7.00e-07	8.00e-07	7.00e-07	7.00e-07	1.00
Beam Size & Position	2.00e-07	2.30e-06	3.90e-06	3.80e-06	1.17e-05	1.42e-05	1.01e-05	7.40e-06	0.50
Filter Instability	0.0	3.60e-06	2.10e-06	2.00e-06	5.60e-06	8.30e-06	4.90e-06	2.40e-06	0.0
Total Type B Uncertainty	8.60e-06	1.53e-05	9.90e-06	1.12e-05	5.17e-05	2.83e-05	1.97e-05	1.29e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.00e-07	4.20e-06	2.50e-06	1.07e-05	9.20e-06	8.90e-06	1.60e-05	1.74e-05	
Total Uncertainty	8.60e-06	1.58e-05	1.02e-05	1.55e-05	5.25e-05	2.97e-05	2.54e-05	2.16e-05	
Degrees of Freedom	1.48e+09	406.0	589.0	9.0	2.11e+03	252.0	13.0	5.0	

Uncertainty budget for ASTAR, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	4.00e-08	3.90e-07	5.20e-07	5.00e-07	1.20e-06	1.64e-06	1.32e-06	1.08e-06
Temperature	1.00e-08	5.30e-07	6.40e-07	1.46e-06	3.39e-06	3.37e-06	2.40e-06	3.50e-06
Wavelength	3.90e-07	1.20e-06	1.08e-06	7.30e-07	1.31e-05	8.02e-06	6.29e-06	2.74e-06
Stray Light	0.0	2.00e-08	4.00e-08	4.00e-08	1.20e-07	1.60e-07	1.30e-07	1.10e-07
Beam Size & Position	1.00e-08	1.40e-07	4.10e-07	4.40e-07	2.09e-06	4.14e-06	3.56e-06	3.02e-06
Filter Instability	0.0	3.40e-07	0.0	7.00e-08	0.0	0.0	0.0	6.90e-07
Total Type B Uncertainty	3.90e-07	1.42e-06	1.42e-06	1.76e-06	1.38e-05	9.77e-06	7.74e-06	5.52e-06
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	2.40e-07	2.60e-07	7.80e-07	3.10e-07	7.10e-07	2.67e-06	3.06e-06	5.93e-06
Total Uncertainty	4.60e-07	1.44e-06	1.61e-06	1.79e-06	1.38e-05	1.01e-05	8.32e-06	8.10e-06
Degrees of Freedom	27.0	1.96e+03	37.0	2.32e+03	2.77e+05	413.0	110.0	7.0

Uncertainty budget for ASTAR, Filter E, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	4.00e-08	3.90e-07	5.20e-07	5.00e-07	1.20e-06	1.64e-06	1.32e-06	1.08e-06	1.00
Temperature	1.00e-08	5.30e-07	6.40e-07	1.46e-06	3.39e-06	3.37e-06	2.40e-06	3.50e-06	1.00
Wavelength	3.90e-07	1.20e-06	1.08e-06	7.30e-07	1.31e-05	8.02e-06	6.29e-06	2.74e-06	0.50
Stray Light	0.0	2.00e-08	4.00e-08	4.00e-08	1.20e-07	1.60e-07	1.30e-07	1.10e-07	1.00
Beam Size & Position	1.00e-08	1.40e-07	4.10e-07	4.40e-07	2.09e-06	4.14e-06	3.56e-06	3.02e-06	0.50
Filter Instability	0.0	3.40e-07	0.0	7.00e-08	0.0	0.0	0.0	6.90e-07	0.0
Total Type B Uncertainty	3.90e-07	1.42e-06	1.42e-06	1.76e-06	1.38e-05	9.77e-06	7.74e-06	5.52e-06	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	4.00e-08	1.30e-07	8.30e-07	8.60e-07	3.65e-06	2.99e-06	8.20e-06	8.86e-06	
Total Uncertainty	3.90e-07	1.42e-06	1.64e-06	1.96e-06	1.42e-05	1.02e-05	1.13e-05	1.04e-05	
Degrees of Freedom	1.94e+04	2.98e+04	31.0	55.0	461.0	274.0	7.0	4.0	

Uncertainty budget for KRISS, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	9.13e-06	9.15e-06	9.17e-06	9.19e-06	9.20e-06	9.21e-06	9.21e-06	9.21e-06
Wavelength	8.10e-05	4.58e-05	4.97e-06	3.03e-06	2.11e-06	1.96e-06	1.31e-06	1.19e-06
Stray Light	9.13e-07	9.15e-07	9.17e-07	9.19e-07	9.20e-07	9.21e-07	9.21e-07	9.21e-07
Beam Size & Position	3.66e-04	3.98e-04	2.91e-04	2.24e-04	1.83e-04	1.62e-04	1.01e-04	1.23e-04
Inter-reflection	1.10e-03	1.10e-03	1.10e-03	1.10e-03	1.10e-03	1.10e-03	1.11e-03	1.11e-03
Obliquity	1.79e-04	3.74e-04	5.73e-05	2.43e-04	2.96e-05	1.73e-04	3.21e-04	1.98e-04
Polarization	5.52e-04	3.46e-05	1.42e-05	1.20e-05	5.01e-06	9.76e-06	4.12e-06	3.93e-06
Source Drift & Fluctuation	6.06e-04	9.37e-04	1.16e-03	6.98e-04	8.08e-04	3.79e-04	5.63e-04	6.06e-04
Bandwidth	3.00e-05	1.40e-04	9.99e-06	3.00e-05	1.60e-04	6.01e-05	1.00e-05	9.99e-06
Total Type B Uncertainty	1.43e-03	1.55e-03	1.63e-03	1.35e-03	1.39e-03	1.19e-03	1.29e-03	1.28e-03
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	7.57e-05	1.25e-04	9.93e-05	8.73e-05	6.13e-05	1.30e-04	8.49e-05	2.49e-05
Total Uncertainty	1.43e-03	1.56e-03	1.63e-03	1.35e-03	1.39e-03	1.20e-03	1.29e-03	1.28e-03
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf

Uncertainty budget for KRISS, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	9.13e-06	9.14e-06	9.17e-06	9.19e-06	9.20e-06	9.20e-06	9.21e-06	9.21e-06	1.00
Wavelength	1.87e-05	1.11e-05	8.29e-06	5.26e-06	2.91e-06	4.56e-06	4.99e-06	8.54e-06	0.0
Stray Light	9.13e-07	9.14e-07	9.17e-07	9.19e-07	9.20e-07	9.20e-07	9.21e-07	9.21e-07	1.00
Beam Size & Position	3.66e-04	3.98e-04	2.91e-04	2.24e-04	1.83e-04	1.62e-04	1.01e-04	1.23e-04	1.00
Inter-reflection	1.10e-03	1.10e-03	1.10e-03	1.10e-03	1.10e-03	1.10e-03	1.10e-03	1.10e-03	1.00
Obliquity	1.79e-04	3.74e-04	5.73e-05	2.43e-04	2.96e-05	1.73e-04	3.21e-04	1.98e-04	1.00
Polarization	5.52e-04	3.45e-05	1.42e-05	1.20e-05	5.01e-06	9.75e-06	4.12e-06	3.93e-06	1.00
Source Drift & Fluctuation	2.79e-03	7.97e-04	1.71e-03	7.32e-04	5.77e-04	5.34e-04	7.82e-04	1.60e-03	0.0
Bandwidth	3.00e-05	1.40e-04	9.99e-06	3.00e-05	1.60e-04	6.00e-05	9.99e-06	9.98e-06	1.00
Total Type B Uncertainty	3.08e-03	1.47e-03	2.05e-03	1.36e-03	1.27e-03	1.25e-03	1.39e-03	1.96e-03	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.53e-04	1.43e-04	7.70e-05	1.31e-04	7.10e-05	1.33e-04	9.97e-05	2.30e-04	
Total Uncertainty	3.08e-03	1.48e-03	2.05e-03	1.37e-03	1.27e-03	1.26e-03	1.40e-03	1.97e-03	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	

Uncertainty budget for KRISS, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	4.13e-06	6.08e-06	6.21e-06	6.09e-06	6.37e-06	5.76e-06	5.01e-06	4.52e-06
Temperature	4.74e-05	1.28e-04	5.70e-05	1.32e-04	7.30e-05	4.49e-05	3.77e-05	5.64e-05
Wavelength	7.69e-04	6.47e-04	1.27e-05	7.66e-06	3.28e-05	9.59e-05	7.45e-05	3.73e-05
Stray Light	1.05e-05	3.25e-06	4.28e-06	3.42e-06	5.28e-06	1.05e-06	4.26e-06	7.62e-06
Beam Size & Position	2.92e-04	1.22e-04	2.56e-04	2.10e-04	9.74e-05	1.21e-04	2.71e-04	8.97e-05
Inter-reflection	4.95e-04	7.30e-04	7.45e-04	7.30e-04	7.64e-04	6.91e-04	6.01e-04	5.43e-04
Obliquity	3.62e-05	1.81e-04	1.94e-04	3.25e-05	2.46e-04	1.76e-04	2.07e-04	2.58e-04
Polarization	2.49e-04	2.30e-05	9.63e-06	7.98e-06	3.47e-06	6.10e-06	2.24e-06	1.93e-06
Source Drift & Fluctuation	5.45e-04	4.50e-04	4.62e-04	2.76e-04	5.40e-04	9.08e-04	4.27e-04	3.69e-04
Bandwidth	1.77e-03	3.20e-04	0.0	4.99e-05	7.99e-05	2.00e-05	0.0	9.99e-06
Total Type B Uncertainty	2.10e-03	1.15e-03	9.36e-04	8.22e-04	9.79e-04	1.17e-03	8.16e-04	7.14e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	3.05e-04	6.04e-05	8.65e-05	6.48e-05	2.70e-05	1.39e-05	5.57e-05	2.85e-05
Total Uncertainty	2.13e-03	1.15e-03	9.40e-04	8.24e-04	9.79e-04	1.17e-03	8.18e-04	7.15e-04
Degrees of Freedom	9.47e+03	inf	inf	inf	inf	inf	inf	inf

Uncertainty budget for KRISS, Filter B, Step 4

KRISS submitted correlation coefficients for each wavelength independently. The average is shown here (variability of up to 0.22 for Temperature component).

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	4.13e-06	6.08e-06	6.21e-06	6.09e-06	6.37e-06	5.76e-06	5.00e-06	4.52e-06	1.00
Temperature	7.41e-05	1.40e-04	6.03e-05	1.45e-04	7.84e-05	4.57e-05	3.57e-05	5.77e-05	0.74
Wavelength	7.78e-04	9.83e-04	1.99e-05	1.40e-05	4.86e-05	1.53e-04	1.11e-04	5.70e-05	0.0
Stray Light	1.05e-05	3.25e-06	4.28e-06	3.42e-06	5.28e-06	1.05e-06	4.26e-06	7.63e-06	1.00
Beam Size & Position	2.92e-04	1.22e-04	2.56e-04	2.10e-04	9.74e-05	1.21e-04	2.71e-04	8.97e-05	1.00
Inter-reflection	4.96e-04	7.29e-04	7.46e-04	7.31e-04	7.64e-04	6.91e-04	6.01e-04	5.43e-04	1.00
Obliquity	3.62e-05	1.81e-04	1.94e-04	3.25e-05	2.46e-04	1.76e-04	2.07e-04	2.58e-04	1.00
Polarization	2.49e-04	2.30e-05	9.63e-06	7.98e-06	3.47e-06	6.10e-06	2.24e-06	1.93e-06	1.00
Source Drift & Fluctuation	1.60e-03	1.22e-03	1.53e-03	1.19e-03	1.54e-03	2.57e-03	6.82e-04	2.42e-03	0.0
Bandwidth	1.77e-03	3.20e-04	0.0	4.99e-05	7.99e-05	2.00e-05	0.0	1.00e-05	1.00
Total Type B Uncertainty	2.59e-03	1.77e-03	1.74e-03	1.42e-03	1.74e-03	2.68e-03	9.77e-04	2.49e-03	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	5.85e-04	7.04e-05	1.61e-04	1.09e-04	9.90e-05	1.73e-04	2.85e-04	2.05e-05	
Total Uncertainty	2.66e-03	1.77e-03	1.74e-03	1.42e-03	1.74e-03	2.68e-03	1.02e-03	2.49e-03	
Degrees of Freedom	1.70e+03	inf	inf	inf	inf	inf	651.0	inf	

Uncertainty budget for KRISS, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	2.25e-07	9.58e-07	9.19e-07	7.71e-07	1.62e-06	1.50e-06	1.03e-06	7.68e-07
Temperature	1.37e-05	1.35e-04	5.45e-05	1.24e-04	1.02e-04	4.25e-05	1.57e-05	3.19e-05
Wavelength	1.49e-04	3.46e-04	3.23e-05	6.25e-06	1.82e-04	6.07e-05	4.35e-05	1.80e-05
Stray Light	5.80e-06	6.35e-07	8.05e-07	1.84e-06	4.03e-06	3.26e-06	7.02e-08	1.90e-06
Beam Size & Position	1.08e-05	6.81e-05	3.77e-05	3.39e-05	3.41e-05	5.25e-05	2.64e-05	1.39e-05
Inter-reflection	2.70e-05	1.15e-04	1.10e-04	9.26e-05	1.94e-04	1.80e-04	1.24e-04	9.21e-05
Obliquity	9.78e-06	5.04e-05	4.02e-05	5.22e-05	7.31e-05	6.36e-05	5.85e-05	7.39e-05
Polarization	1.36e-05	3.62e-06	1.43e-06	1.01e-06	8.82e-07	1.59e-06	4.61e-07	3.28e-07
Source Drift & Fluctuation	3.35e-05	7.99e-05	9.74e-05	5.57e-05	1.47e-04	8.97e-05	9.01e-05	4.35e-05
Bandwidth	4.14e-04	1.72e-04	1.99e-05	9.95e-06	2.01e-05	9.97e-06	0.0	1.00e-05
Total Type B Uncertainty	4.43e-04	4.40e-04	1.71e-04	1.76e-04	3.31e-04	2.30e-04	1.72e-04	1.32e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	5.18e-05	6.27e-05	2.73e-05	2.65e-05	3.65e-05	3.84e-05	3.20e-05	1.14e-05
Total Uncertainty	4.46e-04	4.45e-04	1.73e-04	1.78e-04	3.33e-04	2.33e-04	1.75e-04	1.33e-04
Degrees of Freedom	inf	7.65e+03	6.31e+03	8.05e+03	inf	5.37e+03	3.56e+03	inf

Uncertainty budget for KRISS, Filter C, Step 4

KRISS submitted correlation coefficients for each wavelength independently. The average is shown here (variability of up to 0.18 for Temperature component).

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	2.26e-07	9.59e-07	9.19e-07	7.69e-07	1.61e-06	1.50e-06	1.03e-06	7.69e-07	1.00
Temperature	1.83e-05	9.95e-05	4.59e-05	9.16e-05	8.01e-05	4.34e-05	2.78e-05	3.14e-05	0.61
Wavelength	1.52e-04	5.24e-04	4.93e-05	8.96e-06	2.76e-04	9.15e-05	6.52e-05	2.74e-05	0.0
Stray Light	5.82e-06	6.35e-07	8.05e-07	1.83e-06	4.02e-06	3.26e-06	7.02e-08	1.91e-06	1.00
Beam Size & Position	1.09e-05	6.82e-05	3.77e-05	3.38e-05	3.40e-05	5.26e-05	2.64e-05	1.40e-05	1.00
Inter-reflection	2.71e-05	1.15e-04	1.10e-04	9.22e-05	1.94e-04	1.80e-04	1.24e-04	9.23e-05	1.00
Obliquity	9.81e-06	5.05e-05	4.02e-05	5.20e-05	7.28e-05	6.36e-05	5.85e-05	7.40e-05	1.00
Polarization	1.36e-05	3.62e-06	1.43e-06	1.01e-06	8.79e-07	1.59e-06	4.61e-07	3.28e-07	1.00
Source Drift & Fluctuation	9.97e-05	1.44e-04	1.95e-04	1.39e-04	4.92e-04	5.82e-04	2.80e-04	2.44e-04	0.0
Bandwidth	4.15e-04	1.72e-04	1.99e-05	9.92e-06	2.00e-05	9.97e-06	0.0	1.00e-05	1.00
Total Type B Uncertainty	4.55e-04	5.96e-04	2.41e-04	2.01e-04	6.07e-04	6.23e-04	3.20e-04	2.75e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	8.18e-05	6.60e-05	3.59e-05	3.37e-05	7.26e-05	3.36e-05	1.35e-05	2.18e-05	
Total Uncertainty	4.62e-04	6.00e-04	2.44e-04	2.04e-04	6.11e-04	6.24e-04	3.21e-04	2.75e-04	
Degrees of Freedom	4.06e+03	inf	7.67e+03	4.75e+03	inf	inf	inf	inf	

Uncertainty budget for KRISS, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	3.89e-09	5.20e-08	8.39e-08	8.31e-08	2.66e-07	3.21e-07	2.25e-07	1.67e-07
Temperature	4.26e-07	1.58e-05	9.58e-06	2.41e-05	3.24e-05	1.57e-05	5.00e-06	1.05e-05
Wavelength	3.28e-06	2.66e-05	2.16e-06	3.75e-06	4.08e-05	8.73e-06	1.02e-05	3.20e-06
Stray Light	1.19e-06	8.42e-07	5.86e-07	5.88e-07	6.78e-07	1.08e-06	3.96e-07	1.39e-08
Beam Size & Position	3.28e-07	5.80e-06	1.47e-06	2.65e-06	1.64e-06	3.70e-06	3.38e-06	5.76e-06
Inter-reflection	4.67e-07	6.24e-06	1.01e-05	9.97e-06	3.19e-05	3.86e-05	2.70e-05	2.00e-05
Obliquity	4.09e-07	1.74e-05	2.37e-07	1.98e-06	1.54e-05	2.04e-05	6.12e-06	1.01e-05
Polarization	2.35e-07	1.97e-07	1.30e-07	1.09e-07	1.45e-07	3.41e-07	1.01e-07	7.12e-08
Source Drift & Fluctuation	1.08e-06	1.99e-05	5.90e-06	5.27e-06	1.37e-05	1.94e-05	1.34e-05	1.26e-05
Bandwidth	2.20e-05	0.0	9.97e-06	9.94e-06	0.0	0.0	0.0	1.00e-05
Total Type B Uncertainty	2.23e-05	4.16e-05	1.83e-05	2.89e-05	6.45e-05	5.12e-05	3.30e-05	3.02e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	2.40e-07	5.71e-06	2.17e-06	4.08e-06	1.70e-06	6.19e-06	1.95e-06	3.76e-06
Total Uncertainty	2.23e-05	4.20e-05	1.84e-05	2.92e-05	6.45e-05	5.15e-05	3.30e-05	3.05e-05
Degrees of Freedom	inf	9.25e+03	inf	inf	inf	inf	inf	inf

Uncertainty budget for KRISS, Filter D, Step 4

KRISS submitted correlation coefficients for each wavelength independently. The average is shown here (variability of up to 0.21 for Temperature component).

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	3.89e-09	5.21e-08	8.37e-08	8.26e-08	2.64e-07	3.21e-07	2.25e-07	1.67e-07	1.00
Temperature	6.98e-07	1.75e-05	1.11e-05	2.69e-05	3.67e-05	1.97e-05	9.04e-06	1.29e-05	0.50
Wavelength	3.28e-06	4.01e-05	3.26e-06	5.56e-06	6.15e-05	1.33e-05	1.54e-05	4.83e-06	0.0
Stray Light	1.19e-06	8.42e-07	5.85e-07	5.85e-07	6.75e-07	1.07e-06	3.96e-07	1.40e-08	1.00
Beam Size & Position	3.28e-07	5.80e-06	1.46e-06	2.63e-06	1.63e-06	3.70e-06	3.38e-06	5.76e-06	1.00
Inter-reflection	4.67e-07	6.25e-06	1.00e-05	9.92e-06	3.17e-05	3.85e-05	2.70e-05	2.00e-05	1.00
Obliquity	4.09e-07	1.74e-05	2.36e-07	1.97e-06	1.54e-05	2.04e-05	6.12e-06	1.01e-05	1.00
Polarization	2.35e-07	1.97e-07	1.30e-07	1.08e-07	1.44e-07	3.40e-07	1.01e-07	7.12e-08	1.00
Source Drift & Fluctuation	2.32e-06	3.17e-05	1.60e-05	1.50e-05	1.37e-04	3.96e-05	8.89e-05	4.14e-05	0.0
Bandwidth	2.20e-05	0.0	9.95e-06	9.89e-06	0.0	0.0	0.0	1.00e-05	1.00
Total Type B Uncertainty	2.24e-05	5.74e-05	2.43e-05	3.45e-05	1.59e-04	6.37e-05	9.49e-05	5.04e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	7.48e-07	7.36e-06	7.44e-06	1.08e-05	1.53e-05	1.35e-05	1.81e-06	2.70e-06	
Total Uncertainty	2.24e-05	5.79e-05	2.55e-05	3.61e-05	1.59e-04	6.51e-05	9.49e-05	5.05e-05	
Degrees of Freedom	inf	inf	532.0	496.0	inf	1.89e+03	inf	inf	

Uncertainty budget for KRISS, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.29e-10	3.21e-09	8.83e-09	9.48e-09	4.87e-08	9.33e-08	8.12e-08	6.87e-08
Temperature	2.05e-08	1.01e-06	1.30e-06	3.49e-06	7.66e-06	5.55e-06	2.26e-06	7.18e-06
Wavelength	1.12e-07	5.14e-06	2.89e-07	7.54e-07	1.03e-05	1.06e-06	2.35e-06	2.81e-07
Stray Light	4.83e-07	3.05e-07	2.59e-07	2.44e-07	2.68e-08	3.41e-07	2.57e-07	1.68e-07
Beam Size & Position	1.25e-07	7.23e-06	7.19e-07	8.65e-07	2.89e-06	2.67e-06	4.86e-06	4.58e-06
Inter-reflection	1.55e-08	3.85e-07	1.06e-06	1.14e-06	5.85e-06	1.12e-05	9.75e-06	8.24e-06
Obliquity	1.26e-07	1.80e-06	5.50e-07	2.26e-07	1.11e-06	2.47e-06	2.01e-06	1.96e-06
Polarization	7.80e-09	1.21e-08	1.37e-08	1.24e-08	2.65e-08	9.89e-08	3.64e-08	2.93e-08
Source Drift & Fluctuation	4.62e-07	8.89e-07	1.94e-06	1.84e-06	3.08e-06	8.14e-06	6.43e-06	3.74e-06
Bandwidth	8.05e-07	5.37e-07	9.30e-07	7.10e-08	0.0	0.0	0.0	0.0
Total Type B Uncertainty	1.07e-06	9.18e-06	2.90e-06	4.28e-06	1.47e-05	1.54e-05	1.32e-05	1.26e-05
Degrees of Freedom	inf	inf	inf	inf	8.04e+03	inf	inf	inf
Type A	1.21e-07	3.05e-07	5.20e-07	8.76e-07	6.32e-07	2.00e-06	1.64e-06	2.08e-06
Total Uncertainty	1.07e-06	9.18e-06	2.94e-06	4.37e-06	1.47e-05	1.55e-05	1.33e-05	1.28e-05
Degrees of Freedom	inf	inf	3.97e+03	2.45e+03	8.01e+03	inf	inf	5.07e+03

Uncertainty budget for KRISS, Filter E, Step 4

KRISS submitted correlation coefficients for each wavelength independently. The average is shown here (variability of up to 0.15 for Temperature component).

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.25e-10	3.25e-09	8.80e-09	9.39e-09	4.83e-08	9.31e-08	8.10e-08	6.87e-08	1.00
Temperature	3.18e-08	1.16e-06	1.31e-06	3.25e-06	7.34e-06	6.41e-06	4.01e-06	7.22e-06	0.72
Wavelength	1.07e-07	2.69e-06	4.23e-07	1.13e-06	1.54e-05	1.72e-06	3.52e-06	4.92e-07	0.0
Stray Light	4.68e-07	3.09e-07	2.58e-07	2.42e-07	2.66e-08	3.40e-07	2.56e-07	1.68e-07	1.00
Beam Size & Position	1.21e-07	7.31e-06	7.16e-07	8.57e-07	2.87e-06	2.67e-06	4.85e-06	4.58e-06	1.00
Inter-reflection	1.50e-08	3.90e-07	1.06e-06	1.13e-06	5.80e-06	1.12e-05	9.73e-06	8.25e-06	1.00
Obliquity	1.22e-07	1.82e-06	5.48e-07	2.24e-07	1.10e-06	2.46e-06	2.01e-06	1.96e-06	1.00
Polarization	7.56e-09	1.23e-08	1.36e-08	1.23e-08	2.63e-08	9.86e-08	3.63e-08	2.93e-08	1.00
Source Drift & Fluctuation	1.87e-06	3.22e-06	5.49e-06	2.69e-06	1.05e-05	1.45e-05	3.57e-05	3.12e-05	0.0
Bandwidth	7.80e-07	5.44e-07	9.27e-07	7.04e-08	0.0	0.0	0.0	0.0	1.00
Total Type B Uncertainty	2.09e-06	8.74e-06	5.90e-06	4.60e-06	2.11e-05	1.98e-05	3.77e-05	3.34e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	4.02e+03	inf	inf	
Type A	2.10e-07	4.37e-07	6.70e-07	6.47e-07	6.53e-06	4.40e-06	2.35e-06	1.61e-06	
Total Uncertainty	2.10e-06	8.75e-06	5.94e-06	4.65e-06	2.21e-05	2.03e-05	3.78e-05	3.35e-05	
Degrees of Freedom	inf	inf	inf	6.22e+03	506.0	1.28e+03	inf	inf	

Uncertainty budget for LNE-CNAM, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Wavelength	1.70e-06	5.00e-07	2.30e-07	1.20e-07	9.30e-08	5.50e-08	3.30e-08	5.30e-08
Non Linearity	3.70e-05	3.60e-05	3.50e-05	3.40e-05	3.40e-05	3.40e-05	3.40e-05	3.30e-05
Inter-reflexion	2.60e-05	2.60e-05	2.60e-05	2.70e-05	2.70e-05	2.70e-05	2.70e-05	2.70e-05
Straylight	5.30e-05	5.30e-05	5.30e-05	5.30e-05	5.30e-05	5.30e-05	5.30e-05	1.00e-04
SFK	3.30e-04	1.40e-04	7.60e-05	1.50e-04	5.60e-05	6.50e-05	6.00e-05	2.80e-05
Bandwidth	9.10e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Type B Uncertainty	3.49e-04	1.56e-04	1.02e-04	1.65e-04	8.85e-05	9.44e-05	9.11e-05	1.12e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	2.10e-04	1.00e-04	6.90e-05	4.90e-05	1.30e-05	2.60e-05	8.20e-05	3.50e-05
Total Uncertainty	5.00e-04	2.00e-04	2.00e-04	2.00e-04	1.00e-04	1.00e-04	2.00e-04	2.00e-04
Degrees of Freedom	9.0	7.0	10.0	9.0	5.0	6.0	7.0	11.0

Uncertainty budget for LNE-CNAM, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Wavelength	1.70e-06	2.70e-07	1.30e-07	7.70e-08	5.40e-08	2.80e-08	3.20e-08	4.70e-08	0.0
Non Linearity	3.70e-05	3.60e-05	3.50e-05	3.50e-05	3.40e-05	3.40e-05	3.40e-05	3.30e-05	1.00
Inter-reflexion	2.60e-05	2.60e-05	2.60e-05	2.70e-05	2.70e-05	2.70e-05	2.70e-05	2.70e-05	1.00
Straylight	5.30e-05	5.30e-05	5.30e-05	5.30e-05	5.30e-05	5.30e-05	5.30e-05	5.30e-05	1.00
SFK	2.90e-04	1.40e-04	8.90e-06	6.20e-06	3.10e-05	8.90e-06	6.10e-06	1.00e-04	0.0
Bandwidth	9.10e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00
Total Type B Uncertainty	3.12e-04	1.56e-04	6.92e-05	6.93e-05	7.52e-05	6.91e-05	6.88e-05	1.21e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	3.30e-05	6.40e-05	1.10e-04	3.30e-05	9.80e-05	9.90e-05	1.10e-04	6.80e-05	
Total Uncertainty	4.00e-04	2.00e-04	2.00e-04	1.00e-04	2.00e-04	2.00e-04	2.00e-04	2.00e-04	
Degrees of Freedom	11.0	12.0	9.0	9.0	8.0	6.0	8.0	11.0	

Uncertainty budget for LNE-CNAM, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Wavelength	3.00e-04	2.40e-05	1.10e-07	7.70e-07	1.50e-06	6.80e-06	7.20e-06	6.80e-06
Non Linearity	7.70e-05	1.10e-04	1.10e-04	1.10e-04	1.10e-04	1.10e-04	1.10e-04	7.90e-05
Inter-reflexion	1.20e-05	1.80e-05	1.80e-05	1.80e-05	1.80e-05	1.70e-05	1.40e-05	1.30e-05
Obliquity	8.20e-06	6.80e-06	6.70e-06	6.80e-06	6.50e-06	7.20e-06	7.80e-06	8.10e-06
Straylight	2.40e-05	3.50e-05	3.60e-05	3.50e-05	3.70e-05	3.30e-05	2.90e-05	2.60e-05
SFK	4.20e-04	8.40e-05	6.00e-05	9.30e-05	6.10e-05	3.50e-05	2.40e-05	3.00e-05
Bandwidth	4.10e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Type B Uncertainty	5.24e-04	1.46e-04	1.32e-04	1.49e-04	1.33e-04	1.22e-04	1.18e-04	9.00e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	9.70e-05	1.20e-04	1.60e-05	2.80e-05	4.50e-05	1.50e-05	1.90e-05	2.40e-05
Total Uncertainty	6.00e-04	2.00e-04	2.00e-04	2.00e-04	2.00e-04	2.00e-04	2.00e-04	1.00e-04
Degrees of Freedom	11.0	11.0	6.0	9.0	7.0	4.0	4.0	5.0

Uncertainty budget for LNE-CNAM, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Wavelength	3.00e-04	1.40e-05	5.90e-08	4.30e-07	8.60e-07	3.80e-06	4.00e-06	3.80e-06	0.0
Non Linearity	7.70e-05	1.10e-04	1.10e-04	1.10e-04	1.10e-04	1.10e-04	1.10e-04	7.90e-05	1.00
Inter-reflexion	1.20e-05	1.80e-05	1.80e-05	1.80e-05	1.80e-05	1.70e-05	1.40e-05	1.30e-05	1.00
Obliquity	8.30e-06	6.80e-06	6.70e-06	6.80e-06	6.50e-06	7.20e-06	7.80e-06	8.10e-06	1.00
Straylight	2.40e-05	3.50e-05	3.60e-05	3.50e-05	3.70e-05	3.30e-05	2.90e-05	2.60e-05	1.00
SFK	2.70e-04	8.80e-05	5.50e-06	5.60e-06	4.10e-06	5.70e-06	9.30e-06	3.00e-05	0.0
Bandwidth	4.10e-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00
Total Type B Uncertainty	4.14e-04	1.47e-04	1.17e-04	1.17e-04	1.18e-04	1.17e-04	1.15e-04	8.98e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.10e-04	3.80e-05	8.90e-05	3.00e-05	2.80e-05	4.30e-05	9.80e-05	8.90e-06	
Total Uncertainty	5.00e-04	2.00e-04	2.00e-04	2.00e-04	2.00e-04	2.00e-04	2.00e-04	1.00e-04	
Degrees of Freedom	7.0	11.0	9.0	9.0	7.0	8.0	9.0	7.0	

Uncertainty budget for LNE-CNAM, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Wavelength	1.00e-04	8.00e-06	1.00e-06	3.40e-06	3.40e-06	2.90e-06	4.30e-06	3.70e-06
Non Linearity	2.10e-05	7.50e-05	7.20e-05	6.10e-05	1.20e-04	1.10e-04	8.00e-05	6.10e-05
Inter-reflexion	6.20e-07	2.80e-06	2.70e-06	2.20e-06	4.70e-06	4.30e-06	3.00e-06	2.20e-06
Obliquity	1.90e-06	5.10e-06	4.90e-06	4.50e-06	6.60e-06	6.40e-06	5.30e-06	4.40e-06
Straylight	1.20e-06	5.50e-06	5.30e-06	4.40e-06	9.30e-06	8.70e-06	5.90e-06	4.40e-06
SFK	1.20e-05	4.50e-05	6.50e-06	5.60e-06	5.30e-05	6.90e-06	9.70e-06	6.40e-06
Bandwidth	2.20e-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Type B Uncertainty	1.03e-04	8.82e-05	7.27e-05	6.17e-05	1.32e-04	1.11e-04	8.11e-05	6.18e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	2.90e-06	5.70e-06	7.50e-06	1.20e-05	7.30e-06	1.20e-05	1.10e-05	1.10e-06
Total Uncertainty	1.10e-04	9.00e-05	8.00e-05	7.00e-05	1.40e-04	1.20e-04	9.00e-05	7.00e-05
Degrees of Freedom	11.0	12.0	9.0	7.0	9.0	10.0	9.0	5.0

Uncertainty budget for LNE-CNAM, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Wavelength	1.00e-04	4.50e-06	5.80e-07	1.90e-06	1.90e-06	1.60e-06	2.40e-06	2.10e-06	0.0
Non Linearity	2.10e-05	7.40e-05	7.20e-05	6.10e-05	1.20e-04	1.10e-04	8.00e-05	6.10e-05	1.00
Inter-reflexion	6.20e-07	2.80e-06	2.70e-06	2.20e-06	4.60e-06	4.30e-06	3.00e-06	2.20e-06	1.00
Obliquity	1.90e-06	5.10e-06	5.00e-06	4.50e-06	6.60e-06	6.40e-06	5.30e-06	4.40e-06	1.00
Straylight	1.20e-06	5.50e-06	5.30e-06	4.40e-06	9.30e-06	8.70e-06	5.90e-06	4.40e-06	1.00
SFK	6.70e-06	1.50e-05	1.50e-06	1.20e-06	3.50e-05	7.60e-07	1.80e-06	6.40e-06	0.0
Bandwidth	2.10e-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00
Total Type B Uncertainty	1.02e-04	7.61e-05	7.24e-05	6.14e-05	1.26e-04	1.11e-04	8.05e-05	6.17e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	6.20e-06	4.90e-06	4.80e-06	5.40e-06	5.40e-06	4.20e-06	2.60e-06	1.00e-06	
Total Uncertainty	1.10e-04	8.00e-05	8.00e-05	7.00e-05	1.40e-04	1.20e-04	9.00e-05	7.00e-05	
Degrees of Freedom	11.0	11.0	10.0	4.0	11.0	10.0	10.0	11.0	

Uncertainty budget for LNE-CNAM, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Wavelength	5.10e-06	9.60e-07	1.90e-07	9.20e-07	1.20e-06	2.10e-07	9.40e-07	8.50e-07
Non Linearity	1.10e-06	5.00e-06	8.70e-06	8.60e-06	1.80e-05	2.20e-05	2.20e-05	1.70e-05
Inter-reflexion	1.20e-08	1.60e-07	2.60e-07	2.50e-07	7.90e-07	9.60e-07	6.80e-07	5.00e-07
Obliquity	7.00e-08	6.40e-07	9.40e-07	9.40e-07	2.20e-06	2.60e-06	2.00e-06	1.60e-06
Straylight	2.30e-08	3.20e-07	5.10e-07	5.10e-07	1.60e-06	1.90e-06	1.40e-06	1.00e-06
SFK	1.50e-07	3.00e-06	5.60e-07	1.00e-06	3.00e-06	2.00e-06	1.90e-06	1.30e-06
Bandwidth	4.00e-08	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cascade	1.40e-06	5.10e-06	7.10e-06	7.20e-06	2.10e-05	2.50e-05	1.90e-05	1.40e-05
Total Type B Uncertainty	5.40e-06	7.84e-06	1.13e-05	1.14e-05	2.80e-05	3.35e-05	2.93e-05	2.22e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	4.00e-07	8.60e-07	4.00e-06	1.10e-06	4.90e-06	5.10e-06	1.50e-06	2.40e-06
Total Uncertainty	6.00e-06	8.00e-06	1.20e-05	1.20e-05	2.90e-05	3.50e-05	3.00e-05	2.30e-05
Degrees of Freedom	11.0	12.0	10.0	12.0	8.0	11.0	6.0	10.0

Uncertainty budget for LNE-CNAM, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Wavelength	5.10e-06	5.40e-07	1.00e-07	5.10e-07	6.40e-07	1.10e-07	5.20e-07	4.70e-07	0.0
Non Linearity	1.10e-06	5.00e-06	8.70e-06	8.60e-06	1.80e-05	2.20e-05	2.20e-05	1.70e-05	1.00
Inter-reflexion	1.10e-08	1.60e-07	2.60e-07	2.50e-07	7.90e-07	9.60e-07	6.80e-07	5.00e-07	1.00
Obliquity	6.90e-08	6.40e-07	9.40e-07	9.40e-07	2.20e-06	2.60e-06	2.00e-06	1.60e-06	1.00
Straylight	2.20e-08	3.20e-07	5.10e-07	5.10e-07	1.60e-06	1.90e-06	1.40e-06	1.00e-06	1.00
SFK	1.30e-07	3.60e-06	5.00e-07	1.90e-07	3.60e-06	6.60e-07	3.40e-07	4.10e-07	0.0
Bandwidth	3.90e-08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00
Cascade	1.40e-06	4.40e-06	7.00e-06	7.00e-06	2.00e-05	2.50e-05	1.80e-05	1.40e-05	0.60
Total Type B Uncertainty	5.40e-06	7.63e-06	1.12e-05	1.12e-05	2.73e-05	3.35e-05	2.85e-05	2.21e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	2.80e-07	1.10e-06	4.00e-07	1.90e-06	2.80e-06	6.60e-06	9.50e-07	1.10e-06	
Total Uncertainty	6.00e-06	8.00e-06	1.20e-05	1.20e-05	2.80e-05	3.50e-05	2.90e-05	2.20e-05	
Degrees of Freedom	10.0	11.0	10.0	10.0	12.0	9.0	12.0	6.0	

Uncertainty budget for LNE-CNAM, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Wavelength	3.00e-07	9.80e-08	3.50e-08	1.90e-07	3.90e-07	1.60e-07	1.40e-07	1.80e-07
Non Linearity	3.70e-08	9.90e-07	1.60e-06	1.80e-06	4.30e-06	9.10e-06	7.90e-06	6.70e-06
Inter-reflexion	3.30e-10	9.00e-09	2.50e-08	2.70e-08	1.40e-07	2.70e-07	2.30e-07	2.00e-07
Obliquity	3.00e-09	5.70e-08	1.40e-07	1.50e-07	5.70e-07	9.70e-07	8.70e-07	7.60e-07
Straylight	6.70e-10	1.80e-08	5.00e-08	5.40e-08	2.80e-07	5.30e-07	4.60e-07	3.90e-07
SFK	4.40e-09	4.60e-08	5.40e-08	1.10e-07	3.50e-07	5.80e-07	6.20e-07	4.90e-07
Bandwidth	1.20e-09	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cascade	1.60e-07	4.10e-07	1.20e-06	1.20e-06	4.90e-06	9.40e-06	1.00e-05	8.60e-06
Total Type B Uncertainty	3.42e-07	1.08e-06	2.01e-06	2.18e-06	6.57e-06	1.31e-05	1.28e-05	1.09e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	6.30e-08	6.90e-08	9.00e-08	6.80e-07	1.00e-06	4.10e-06	1.30e-06	2.00e-06
Total Uncertainty	4.00e-07	1.10e-06	2.10e-06	2.30e-06	6.70e-06	1.40e-05	1.30e-05	1.10e-05
Degrees of Freedom	8.0	9.0	11.0	10.0	9.0	7.0	10.0	6.0

Uncertainty budget for LNE-CNAM, Filter E, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Wavelength	3.00e-07	5.40e-08	2.00e-08	1.10e-07	2.20e-07	9.10e-08	7.90e-08	9.80e-08	0.0
Non Linearity	3.70e-08	9.80e-07	1.60e-06	1.80e-06	4.30e-06	9.00e-06	7.90e-06	6.70e-06	1.00
Inter-reflexion	3.30e-10	8.90e-09	2.50e-08	2.70e-08	1.40e-07	2.70e-07	2.30e-07	2.00e-07	1.00
Obliquity	2.90e-09	5.60e-08	1.40e-07	1.50e-07	5.70e-07	9.70e-07	8.70e-07	7.60e-07	1.00
Straylight	6.60e-10	1.80e-08	5.00e-08	5.30e-08	2.70e-07	5.30e-07	4.60e-07	3.90e-07	1.00
SFK	3.90e-09	6.90e-08	5.10e-08	1.90e-08	8.40e-08	1.80e-07	1.20e-07	1.60e-07	0.0
Bandwidth	1.10e-09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00
Cascade	1.60e-07	3.90e-07	1.10e-06	1.20e-06	4.80e-06	9.40e-06	9.90e-06	8.50e-06	0.60
Total Type B Uncertainty	3.42e-07	1.06e-06	1.95e-06	2.17e-06	6.48e-06	1.31e-05	1.27e-05	1.09e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	3.00e-07	5.40e-07	1.60e-06	8.50e-07	1.80e-06	3.50e-06	6.40e-07	1.60e-06	
Total Uncertainty	5.00e-07	1.20e-06	2.60e-06	2.30e-06	6.80e-06	1.40e-05	1.30e-05	1.10e-05	
Degrees of Freedom	9.0	11.0	9.0	6.0	9.0	7.0	9.0	8.0	

Uncertainty budget for MKEH, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	2.90e-04	2.90e-04	2.90e-04	2.90e-04	2.90e-04	2.90e-04	2.90e-04	2.90e-04
Temperature	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05
Wavelength	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05
Stray Light	4.00e-05	4.00e-05	4.00e-05	4.00e-05	4.00e-05	4.00e-05	4.00e-05	4.00e-05
Beam Size & Position	8.50e-04	7.40e-04	6.70e-04	6.50e-04	6.40e-04	7.20e-04	7.60e-04	8.20e-04
Inter-reflection	9.00e-05	9.00e-05	9.00e-05	9.00e-05	9.00e-05	9.00e-05	9.00e-05	9.00e-05
Obliquity	6.00e-05	6.00e-05	6.00e-05	6.00e-05	6.00e-05	6.00e-05	6.00e-05	6.00e-05
Polarization	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05
Source Drift & Fluctuation	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04
Bandwidth	5.00e-05	3.00e-05	2.00e-05	2.00e-05	2.00e-05	2.00e-05	2.00e-05	2.00e-05
Total Type B Uncertainty	9.30e-04	8.30e-04	7.60e-04	7.50e-04	7.40e-04	8.10e-04	8.40e-04	9.00e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	5.00e-04	4.00e-04	6.00e-04	5.00e-04	5.00e-04	6.00e-04	9.00e-04	1.10e-03
Total Uncertainty	1.00e-03	9.00e-04	1.00e-03	9.00e-04	9.00e-04	1.00e-03	1.20e-03	1.40e-03
Degrees of Freedom	1.05e+03	836.0	216.0	239.0	396.0	231.0	4.0	3.0

Uncertainty budget for MKEH, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	2.90e-04	2.90e-04	2.90e-04	2.90e-04	2.90e-04	2.90e-04	2.90e-04	2.90e-04	0.0
Temperature	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	0.0
Wavelength	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	3.00e-05	0.0
Stray Light	4.00e-05	4.00e-05	4.00e-05	4.00e-05	4.00e-05	4.00e-05	4.00e-05	4.00e-05	0.0
Beam Size & Position	8.50e-04	7.40e-04	6.70e-04	6.50e-04	6.30e-04	7.20e-04	7.50e-04	8.20e-04	0.0
Inter-reflection	9.00e-05	9.00e-05	9.00e-05	9.00e-05	9.00e-05	9.00e-05	9.00e-05	9.00e-05	0.0
Obliquity	6.00e-05	6.00e-05	6.00e-05	6.00e-05	6.00e-05	6.00e-05	6.00e-05	6.00e-05	0.0
Polarization	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	0.0
Source Drift & Fluctuation	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	0.0
Bandwidth	5.00e-05	3.00e-05	2.00e-05	2.00e-05	2.00e-05	2.00e-05	2.00e-05	2.00e-05	0.0
Total Type B Uncertainty	9.20e-04	8.20e-04	7.60e-04	7.40e-04	7.30e-04	8.00e-04	8.40e-04	9.00e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	4.00e-04	3.00e-04	3.00e-04	2.00e-04	2.00e-04	3.00e-04	1.20e-03	1.40e-03	
Total Uncertainty	1.00e-03	9.00e-04	8.00e-04	8.00e-04	7.00e-04	9.00e-04	1.50e-03	1.70e-03	
Degrees of Freedom	6.80e+03	1.52e+04	1.14e+03	2.81e+03	1.70e+04	4.94e+04	38.0	37.0	

Uncertainty budget for MKEH, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.91e-04	1.92e-04	1.96e-04	1.93e-04	2.01e-04	1.82e-04	1.58e-04	2.12e-04
Temperature	4.70e-05	1.02e-04	4.00e-05	1.05e-04	5.50e-05	2.60e-05	1.00e-05	3.30e-05
Wavelength	1.35e-03	1.07e-04	4.30e-05	2.20e-05	5.00e-05	5.80e-05	5.00e-05	4.50e-05
Stray Light	1.60e-05	2.40e-05	2.50e-05	2.40e-05	2.60e-05	2.30e-05	2.00e-05	1.80e-05
Beam Size & Position	2.64e-04	3.52e-04	3.30e-04	3.12e-04	3.13e-04	3.15e-04	2.91e-04	2.75e-04
Inter-reflection	4.10e-05	6.10e-05	6.20e-05	6.10e-05	6.40e-05	5.80e-05	5.00e-05	4.50e-05
Obliquity	2.90e-05	4.30e-05	4.40e-05	4.30e-05	4.50e-05	4.10e-05	3.50e-05	3.20e-05
Polarization	4.00e-06	6.00e-06	6.00e-06	6.00e-06	6.00e-06	6.00e-06	5.00e-06	5.00e-06
Source Drift & Fluctuation	8.20e-05	1.22e-04	1.25e-04	1.22e-04	1.28e-04	1.16e-04	1.01e-04	9.10e-05
Bandwidth	2.00e-05	1.80e-05	1.20e-05	1.20e-05	1.30e-05	1.20e-05	1.00e-05	9.00e-06
Total Type B Uncertainty	1.39e-03	4.51e-04	4.16e-04	4.09e-04	4.09e-04	3.94e-04	3.56e-04	3.68e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.40e-04	7.00e-05	3.00e-05	8.00e-05	6.00e-05	9.00e-05	2.00e-04	2.00e-04
Total Uncertainty	1.40e-03	4.60e-04	4.20e-04	4.20e-04	4.10e-04	4.00e-04	4.10e-04	4.20e-04
Degrees of Freedom	6.71e+05	1.50e+05	1.12e+06	4.18e+04	1.04e+05	2.18e+04	35.0	19.0

Uncertainty budget for MKEH, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.94e-04	1.92e-04	1.97e-04	1.93e-04	2.02e-04	1.83e-04	1.59e-04	2.13e-04	0.0
Temperature	4.70e-05	1.02e-04	4.00e-05	1.05e-04	5.50e-05	2.60e-05	1.00e-05	3.30e-05	0.0
Wavelength	1.36e-03	1.07e-04	4.30e-05	2.20e-05	5.00e-05	5.80e-05	5.00e-05	4.50e-05	0.0
Stray Light	1.70e-05	2.40e-05	2.50e-05	2.40e-05	2.60e-05	2.30e-05	2.00e-05	1.80e-05	0.0
Beam Size & Position	2.67e-04	3.53e-04	3.31e-04	3.12e-04	3.13e-04	3.15e-04	2.91e-04	2.75e-04	0.0
Inter-reflection	4.10e-05	6.10e-05	6.20e-05	6.10e-05	6.40e-05	5.80e-05	5.00e-05	4.50e-05	0.0
Obliquity	2.90e-05	4.30e-05	4.40e-05	4.30e-05	4.50e-05	4.10e-05	3.50e-05	3.20e-05	0.0
Polarization	4.00e-06	6.00e-06	6.00e-06	6.00e-06	6.00e-06	6.00e-06	5.00e-06	5.00e-06	0.0
Source Drift & Fluctuation	8.30e-05	1.22e-04	1.25e-04	1.22e-04	1.28e-04	1.16e-04	1.01e-04	9.10e-05	0.0
Bandwidth	2.10e-05	1.80e-05	1.20e-05	1.20e-05	1.30e-05	1.20e-05	1.00e-05	9.00e-06	0.0
Total Type B Uncertainty	1.41e-03	4.52e-04	4.17e-04	4.09e-04	4.09e-04	3.95e-04	3.56e-04	3.68e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	5.00e-04	4.40e-04	1.90e-04	2.20e-04	5.00e-05	3.60e-04	6.30e-04	1.90e-04	
Total Uncertainty	1.49e-03	6.30e-04	4.60e-04	4.60e-04	4.10e-04	5.30e-04	7.30e-04	4.20e-04	
Degrees of Freedom	1.25e+04	986.0	532.0	379.0	7.05e+04	3.79e+03	35.0	431.0	

Uncertainty budget for MKEH, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	2.10e-05	6.90e-05	6.60e-05	5.50e-05	9.60e-05	8.90e-05	6.10e-05	5.50e-05
Temperature	1.10e-05	8.40e-05	3.40e-05	7.70e-05	6.40e-05	2.50e-05	7.00e-06	1.90e-05
Wavelength	7.26e-04	1.32e-04	1.60e-04	1.67e-04	4.56e-04	3.73e-04	1.52e-04	1.28e-04
Stray Light	2.00e-06	9.00e-06	9.00e-06	8.00e-06	1.60e-05	1.50e-05	1.00e-05	8.00e-06
Beam Size & Position	1.80e-05	7.10e-05	5.90e-05	4.80e-05	1.04e-04	1.11e-04	7.50e-05	5.80e-05
Inter-reflection	2.00e-06	9.00e-06	9.00e-06	8.00e-06	1.60e-05	1.50e-05	1.00e-05	8.00e-06
Obliquity	1.00e-06	7.00e-06	6.00e-06	5.00e-06	1.10e-05	1.00e-05	7.00e-06	5.00e-06
Polarization	0.0	1.00e-06	1.00e-06	1.00e-06	2.00e-06	1.00e-06	1.00e-06	1.00e-06
Source Drift & Fluctuation	4.00e-06	1.90e-05	1.80e-05	1.50e-05	3.20e-05	3.00e-05	2.00e-05	1.50e-05
Bandwidth	1.00e-06	3.00e-06	2.00e-06	2.00e-06	3.00e-06	3.00e-06	2.00e-06	2.00e-06
Total Type B Uncertainty	7.27e-04	1.87e-04	1.87e-04	1.99e-04	4.83e-04	4.02e-04	1.82e-04	1.53e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.33e-04	4.00e-05	3.30e-05	9.00e-05	1.52e-04	1.32e-04	2.00e-04	2.50e-04
Total Uncertainty	7.39e-04	1.91e-04	1.90e-04	2.19e-04	5.07e-04	4.23e-04	2.70e-04	2.93e-04
Degrees of Freedom	5.98e+05	1.28e+07	2.22e+06	5.62e+04	1.13e+05	8.94e+05	940.0	322.0

Uncertainty budget for MKEH, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	2.10e-05	6.90e-05	6.70e-05	5.60e-05	9.70e-05	9.00e-05	6.10e-05	5.50e-05	0.0
Temperature	1.10e-05	8.50e-05	3.40e-05	7.80e-05	6.40e-05	2.60e-05	7.00e-06	1.90e-05	0.0
Wavelength	7.42e-04	1.15e-04	1.62e-04	1.71e-04	4.57e-04	3.60e-04	1.53e-04	1.29e-04	0.0
Stray Light	2.00e-06	9.00e-06	9.00e-06	8.00e-06	1.60e-05	1.50e-05	1.00e-05	8.00e-06	0.0
Beam Size & Position	1.80e-05	7.10e-05	5.90e-05	4.80e-05	1.05e-04	1.12e-04	7.60e-05	5.90e-05	0.0
Inter-reflection	2.00e-06	9.00e-06	9.00e-06	8.00e-06	1.60e-05	1.50e-05	1.00e-05	8.00e-06	0.0
Obliquity	2.00e-06	7.00e-06	6.00e-06	5.00e-06	1.10e-05	1.00e-05	7.00e-06	5.00e-06	0.0
Polarization	0.0	1.00e-06	1.00e-06	1.00e-06	2.00e-06	1.00e-06	1.00e-06	1.00e-06	0.0
Source Drift & Fluctuation	4.00e-06	1.90e-05	1.80e-05	1.50e-05	3.20e-05	3.00e-05	2.00e-05	1.50e-05	0.0
Bandwidth	1.00e-06	3.00e-06	2.00e-06	2.00e-06	3.00e-06	3.00e-06	2.00e-06	2.00e-06	0.0
Total Type B Uncertainty	7.43e-04	1.76e-04	1.89e-04	2.03e-04	4.85e-04	3.90e-04	1.83e-04	1.54e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.10e-04	1.18e-04	1.40e-04	1.24e-04	1.26e-04	2.29e-04	1.00e-04	6.50e-05	
Total Uncertainty	7.51e-04	2.12e-04	2.36e-04	2.38e-04	5.01e-04	4.52e-04	2.09e-04	1.67e-04	
Degrees of Freedom	2.61e+04	1.54e+03	535.0	990.0	1.33e+04	1.27e+04	190.0	440.0	

Uncertainty budget for MKEH, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	6.00e-07	5.80e-06	9.50e-06	9.40e-06	2.28e-05	2.78e-05	2.22e-05	1.64e-05
Temperature	4.00e-07	1.05e-05	6.40e-06	1.62e-05	2.16e-05	1.02e-05	2.60e-06	6.80e-06
Wavelength	6.00e-06	1.78e-05	7.00e-06	7.00e-06	4.63e-05	2.97e-05	2.52e-05	1.52e-05
Stray Light	6.00e-07	5.00e-07	8.00e-07	8.00e-07	2.70e-06	3.20e-06	2.20e-06	1.70e-06
Beam Size & Position	4.00e-07	5.50e-06	7.80e-06	7.20e-06	2.15e-05	2.88e-05	2.16e-05	1.71e-05
Inter-reflection	4.00e-08	5.00e-07	8.00e-07	8.00e-07	2.70e-06	3.20e-06	2.20e-06	1.70e-06
Obliquity	2.00e-08	4.00e-07	6.00e-07	6.00e-07	1.90e-06	2.30e-06	1.60e-06	1.20e-06
Polarization	0.0	1.00e-07	1.00e-07	1.00e-07	3.00e-07	3.00e-07	2.00e-07	2.00e-07
Source Drift & Fluctuation	7.00e-08	1.00e-06	1.70e-06	1.70e-06	5.30e-06	6.50e-06	4.50e-06	3.30e-06
Bandwidth	2.00e-08	2.00e-07	2.00e-07	2.00e-07	5.00e-07	6.00e-07	4.00e-07	3.00e-07
Total Type B Uncertainty	6.10e-06	2.23e-05	1.57e-05	2.13e-05	6.04e-05	5.15e-05	4.04e-05	2.92e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	8.90e-06	1.70e-05	3.50e-06	4.70e-06	8.20e-06	6.92e-05	4.00e-05	4.00e-05
Total Uncertainty	1.08e-05	2.80e-05	1.61e-05	2.18e-05	6.09e-05	8.63e-05	5.69e-05	4.96e-05
Degrees of Freedom	196.0	347.0	4.04e+03	4.36e+03	2.71e+04	290.0	4.0	2.0

Uncertainty budget for MKEH, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	6.00e-07	5.80e-06	9.40e-06	9.30e-06	2.27e-05	2.76e-05	2.21e-05	1.63e-05	0.0
Temperature	4.00e-07	1.06e-05	6.40e-06	1.61e-05	2.15e-05	1.02e-05	2.60e-06	6.80e-06	0.0
Wavelength	6.20e-06	1.79e-05	7.00e-06	7.00e-06	4.61e-05	2.95e-05	2.50e-05	1.52e-05	0.0
Stray Light	7.00e-07	5.00e-07	8.00e-07	8.00e-07	2.60e-06	3.20e-06	2.20e-06	1.60e-06	0.0
Beam Size & Position	4.00e-07	5.50e-06	7.80e-06	7.10e-06	2.14e-05	2.86e-05	2.14e-05	1.70e-05	0.0
Inter-reflection	4.00e-08	5.00e-07	8.00e-07	8.00e-07	2.60e-06	3.20e-06	2.20e-06	1.60e-06	0.0
Obliquity	3.00e-08	4.00e-07	6.00e-07	6.00e-07	1.90e-06	2.20e-06	1.60e-06	1.20e-06	0.0
Polarization	0.0	1.00e-07	1.00e-07	1.00e-07	3.00e-07	3.00e-07	2.00e-07	2.00e-07	0.0
Source Drift & Fluctuation	7.00e-08	1.00e-06	1.70e-06	1.70e-06	5.30e-06	6.40e-06	4.50e-06	3.30e-06	0.0
Bandwidth	2.00e-08	2.00e-07	2.00e-07	2.00e-07	5.00e-07	6.00e-07	4.00e-07	3.00e-07	0.0
Total Type B Uncertainty	6.30e-06	2.23e-05	1.56e-05	2.12e-05	6.01e-05	5.12e-05	4.01e-05	2.91e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	5.20e-06	8.70e-06	4.10e-06	4.10e-06	6.10e-06	2.11e-05	2.60e-05	2.30e-05	
Total Uncertainty	8.20e-06	2.39e-05	1.61e-05	2.16e-05	6.04e-05	5.53e-05	4.78e-05	3.71e-05	
Degrees of Freedom	800.0	8.81e+03	4.17e+03	1.37e+04	1.70e+05	1.56e+04	114.0	68.0	

Uncertainty budget for MKEH, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	3.00e-08	6.00e-07	1.50e-06	1.40e-06	5.80e-06	1.11e-05	9.70e-06	8.20e-06
Temperature	2.00e-08	1.10e-06	1.10e-06	2.90e-06	6.30e-06	4.30e-06	1.30e-06	5.80e-06
Wavelength	3.60e-07	6.60e-06	6.40e-06	2.00e-06	1.13e-05	3.00e-06	5.20e-06	5.10e-06
Stray Light	6.50e-07	5.00e-07	5.00e-07	5.00e-07	5.00e-07	1.00e-06	9.00e-07	7.00e-07
Beam Size & Position	2.00e-08	4.00e-07	1.00e-06	1.00e-06	4.80e-06	9.70e-06	9.00e-06	8.10e-06
Inter-reflection	1.00e-09	3.00e-08	1.00e-07	1.00e-07	5.00e-07	1.00e-06	9.00e-07	7.00e-07
Obliquity	1.00e-09	2.00e-08	1.00e-07	1.00e-07	4.00e-07	7.00e-07	6.00e-07	5.00e-07
Polarization	1.00e-10	3.00e-09	1.00e-08	1.00e-08	1.00e-07	1.00e-07	1.00e-07	1.00e-07
Source Drift & Fluctuation	3.00e-09	1.00e-07	2.00e-07	2.00e-07	1.00e-06	2.00e-06	1.70e-06	1.50e-06
Bandwidth	1.00e-09	1.00e-08	2.00e-08	2.00e-08	1.00e-07	2.00e-07	2.00e-07	1.00e-07
Total Type B Uncertainty	7.00e-07	6.80e-06	6.80e-06	4.00e-06	1.50e-05	1.59e-05	1.44e-05	1.40e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	8.00e-06	8.30e-06	1.90e-06	3.80e-06	1.45e-05	4.04e-05	1.50e-05	1.90e-05
Total Uncertainty	8.10e-06	1.07e-05	7.10e-06	5.50e-06	2.09e-05	4.34e-05	2.08e-05	2.36e-05
Degrees of Freedom	92.0	131.0	1.78e+03	39.0	39.0	160.0	7.0	2.0

Uncertainty budget for MKEH, Filter E, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	3.00e-08	5.90e-07	1.50e-06	1.45e-06	5.80e-06	1.11e-05	9.66e-06	8.17e-06	0.0
Temperature	2.00e-08	1.09e-06	1.08e-06	2.93e-06	6.25e-06	4.31e-06	1.29e-06	5.82e-06	0.0
Wavelength	3.60e-07	6.64e-06	6.45e-06	1.96e-06	1.13e-05	2.97e-06	5.16e-06	5.09e-06	0.0
Stray Light	6.50e-07	5.20e-07	4.80e-07	5.20e-07	5.20e-07	9.90e-07	8.60e-07	7.30e-07	0.0
Beam Size & Position	2.00e-08	3.90e-07	1.03e-06	1.02e-06	4.81e-06	9.70e-06	9.04e-06	8.07e-06	0.0
Inter-reflection	1.00e-09	3.40e-08	1.00e-07	1.00e-07	5.20e-07	9.90e-07	8.60e-07	7.30e-07	0.0
Obliquity	1.00e-09	2.40e-08	7.00e-08	7.00e-08	3.60e-07	6.90e-07	6.00e-07	5.10e-07	0.0
Polarization	1.00e-10	3.00e-09	1.00e-08	1.00e-08	5.00e-08	1.00e-07	9.00e-08	7.00e-08	0.0
Source Drift & Fluctuation	3.00e-09	6.90e-08	1.90e-07	2.10e-07	1.03e-06	1.98e-06	1.72e-06	1.45e-06	0.0
Bandwidth	1.00e-09	1.00e-08	2.00e-08	2.00e-08	1.00e-07	2.00e-07	1.70e-07	1.50e-07	0.0
Total Type B Uncertainty	7.50e-07	6.79e-06	6.81e-06	3.99e-06	1.50e-05	1.58e-05	1.44e-05	1.40e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.50e-06	8.30e-06	1.90e-06	3.80e-06	1.45e-05	4.04e-05	1.50e-05	1.90e-05	
Total Uncertainty	1.70e-06	1.07e-05	7.10e-06	5.50e-06	2.09e-05	4.34e-05	2.08e-05	2.36e-05	
Degrees of Freedom	98.0	414.0	3.56e+03	78.0	78.0	402.0	148.0	142.0	

Uncertainty budget for NIST, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	4.16e-05	4.17e-05	4.20e-05	4.22e-05	4.23e-05	4.24e-05	4.25e-05	4.25e-05
Wavelength	1.38e-05	9.76e-06	1.95e-06	2.32e-06	1.25e-06	8.68e-07	7.36e-07	8.68e-07
Stray Light	1.17e-05	5.34e-06	3.89e-07	4.13e-08	2.52e-08	6.09e-08	1.82e-07	2.45e-07
Beam Size & Position	5.57e-05	5.60e-05	5.64e-05	5.66e-05	5.68e-05	5.69e-05	5.69e-05	5.70e-05
Inter-reflection	4.27e-04	4.29e-04	4.32e-04	4.33e-04	4.35e-04	4.35e-04	4.36e-04	4.36e-04
Obliquity	2.59e-07	2.59e-07	2.59e-07	2.59e-07	2.59e-07	2.59e-07	2.59e-07	2.59e-07
Bandwidth	3.33e-06	3.34e-06	3.36e-06	3.38e-06	3.39e-06	3.39e-06	3.40e-06	3.40e-06
Detector reproducibility	2.91e-04	2.92e-04	2.94e-04	2.95e-04	2.96e-04	2.97e-04	2.97e-04	2.98e-04
Total Type B Uncertainty	5.22e-04	5.24e-04	5.27e-04	5.29e-04	5.31e-04	5.32e-04	5.32e-04	5.33e-04
Deg. of Freedom (Type B)	inf	inf	inf	inf	inf	inf	inf	inf
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05
Total Uncertainty	5.22e-04	5.24e-04	5.27e-04	5.29e-04	5.31e-04	5.32e-04	5.33e-04	5.33e-04
Degrees of Freedom	1.17e+06	3.22e+06	1.95e+07	1.98e+07	2.00e+07	2.02e+07	2.03e+07	2.04e+07

Uncertainty budget for NIST, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	4.16e-05	4.18e-05	4.20e-05	4.22e-05	4.23e-05	4.24e-05	4.24e-05	4.25e-05	1.00
Wavelength	1.38e-05	9.76e-06	1.95e-06	2.32e-06	1.25e-06	8.68e-07	7.36e-07	8.68e-07	0.0
Stray Light	1.17e-05	5.35e-06	3.89e-07	4.13e-08	2.52e-08	6.09e-08	1.81e-07	2.45e-07	1.00
Beam Size & Position	5.58e-05	5.60e-05	5.64e-05	5.66e-05	5.68e-05	5.69e-05	5.69e-05	5.70e-05	1.00
Inter-reflection	4.27e-04	4.29e-04	4.32e-04	4.33e-04	4.35e-04	4.35e-04	4.36e-04	4.36e-04	0.50
Obliquity	2.59e-07	2.59e-07	2.59e-07	2.59e-07	2.59e-07	2.59e-07	2.59e-07	2.59e-07	1.00
Bandwidth	3.33e-06	3.34e-06	3.36e-06	3.38e-06	3.39e-06	3.39e-06	3.40e-06	3.40e-06	1.00
Detector reproducibility	2.91e-04	2.92e-04	2.94e-04	2.95e-04	2.96e-04	2.97e-04	2.97e-04	2.98e-04	1.00
Total Type B Uncertainty	5.22e-04	5.24e-04	5.27e-04	5.29e-04	5.31e-04	5.32e-04	5.32e-04	5.33e-04	
Deg. of Freedom (Type B)	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	
Total Uncertainty	5.23e-04	5.24e-04	5.27e-04	5.29e-04	5.31e-04	5.32e-04	5.32e-04	5.33e-04	
Degrees of Freedom	1.17e+06	3.22e+06	1.95e+07	1.98e+07	2.00e+07	2.02e+07	2.03e+07	2.04e+07	

Uncertainty budget for NIST, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.68e-05	0.0	3.87e-05	3.72e-05	4.06e-05	3.33e-05	2.51e-05	2.05e-05
Temperature	0.0	0.0	4.23e-06	1.11e-05	5.76e-06	2.73e-06	1.02e-06	0.0
Wavelength	1.66e-03	9.48e-04	2.56e-04	8.59e-05	9.51e-05	1.04e-04	8.60e-05	3.45e-05
Stray Light	9.83e-05	1.15e-05	3.23e-06	1.13e-06	2.22e-06	5.26e-07	4.15e-06	8.71e-06
Beam Size & Position	2.93e-05	6.46e-05	6.76e-05	6.50e-05	7.10e-05	5.81e-05	4.39e-05	3.58e-05
Inter-reflection	2.93e-05	6.46e-05	6.76e-05	6.50e-05	7.09e-05	5.81e-05	4.39e-05	3.58e-05
Obliquity	1.11e-06	1.11e-06	1.11e-06	1.11e-06	1.11e-06	1.11e-06	1.11e-06	1.11e-06
Bandwidth	2.01e-06	4.44e-06	4.65e-06	4.46e-06	4.88e-06	3.99e-06	3.02e-06	2.46e-06
Detector range ratio	0.0	7.40e-05	0.0	0.0	0.0	0.0	0.0	0.0
Detector reproducibility	5.87e-05	1.29e-04	1.36e-04	1.30e-04	1.42e-04	1.16e-04	8.80e-05	7.18e-05
Total Type B Uncertainty	1.66e-03	9.64e-04	3.08e-04	1.85e-04	1.81e-04	1.80e-04	1.40e-04	9.70e-05
Deg. of Freedom (Type B)	4.25e+11	2.13e+09	9.26e+08	2.55e+06	3.21e+07	6.20e+08	1.16e+10	1.94e+07
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05
Total Uncertainty	1.67e-03	9.65e-04	3.09e-04	1.87e-04	1.82e-04	1.81e-04	1.42e-04	1.00e-04
Degrees of Freedom	8.43e+07	5.48e+06	7.69e+05	6.78e+04	8.76e+04	7.33e+04	1.98e+04	3.54e+03

Uncertainty budget for NIST, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.69e-05	0.0	3.87e-05	3.72e-05	4.06e-05	3.32e-05	2.51e-05	2.05e-05	1.00
Temperature	0.0	0.0	3.19e-06	8.39e-06	4.35e-06	2.06e-06	7.74e-07	0.0	0.0
Wavelength	1.66e-03	9.48e-04	2.56e-04	8.59e-05	9.51e-05	1.04e-04	8.60e-05	3.45e-05	0.0
Stray Light	9.93e-05	1.15e-05	3.23e-06	1.13e-06	2.22e-06	5.26e-07	4.15e-06	8.70e-06	1.00
Beam Size & Position	2.96e-05	6.45e-05	6.76e-05	6.49e-05	7.09e-05	5.81e-05	4.39e-05	3.58e-05	1.00
Inter-reflection	2.96e-05	6.45e-05	6.76e-05	6.49e-05	7.09e-05	5.80e-05	4.39e-05	3.58e-05	1.00
Obliquity	1.11e-06	1.11e-06	1.11e-06	1.11e-06	1.11e-06	1.11e-06	1.11e-06	1.11e-06	1.00
Bandwidth	2.03e-06	4.43e-06	4.64e-06	4.46e-06	4.87e-06	3.99e-06	3.02e-06	2.46e-06	1.00
Detector range ratio	0.0	7.39e-05	0.0	0.0	0.0	0.0	0.0	0.0	1.00
Detector reproducibility	5.93e-05	1.29e-04	1.35e-04	1.30e-04	1.42e-04	1.16e-04	8.80e-05	7.18e-05	1.00
Total Type B Uncertainty	1.66e-03	9.64e-04	3.08e-04	1.85e-04	1.81e-04	1.80e-04	1.40e-04	9.70e-05	
Deg. of Freedom (Type B)	2.01e+12	1.05e+10	4.58e+09	1.25e+07	1.58e+08	3.05e+09	5.70e+10	9.56e+07	
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	
Total Uncertainty	1.67e-03	9.65e-04	3.09e-04	1.87e-04	1.82e-04	1.81e-04	1.42e-04	1.01e-04	
Degrees of Freedom	7.31e+07	2.03e+07	5.94e+05	5.17e+04	6.73e+04	5.54e+04	1.46e+04	2.60e+03	

Uncertainty budget for NIST, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	0.0	0.0	0.0	0.0	2.58e-06	0.0	0.0	0.0
Temperature	0.0	0.0	3.62e-06	8.32e-06	6.81e-06	2.73e-06	7.53e-07	2.06e-06
Wavelength	6.11e-04	3.49e-04	1.25e-04	8.23e-05	6.53e-05	5.90e-05	5.57e-05	4.69e-06
Stray Light	2.76e-06	1.58e-06	2.96e-07	2.15e-07	4.88e-07	5.78e-07	1.26e-07	4.30e-07
Beam Size & Position	7.49e-08	1.44e-06	1.35e-06	9.46e-07	4.13e-06	3.59e-06	1.68e-06	9.32e-07
Inter-reflection	8.92e-08	1.71e-06	1.60e-06	1.13e-06	4.92e-06	4.27e-06	2.01e-06	1.11e-06
Obliquity	8.95e-07	8.95e-07	8.95e-07	8.95e-07	8.95e-07	8.95e-07	8.95e-07	8.95e-07
Bandwidth	4.31e-08	8.28e-07	7.74e-07	5.45e-07	2.38e-06	2.07e-06	9.69e-07	5.37e-07
Detector range ratio	0.0	1.80e-06	0.0	0.0	0.0	4.49e-06	0.0	0.0
Detector reproducibility	1.64e-07	3.15e-06	2.95e-06	2.07e-06	9.05e-06	7.86e-06	3.69e-06	2.04e-06
Total Type B Uncertainty	6.11e-04	3.49e-04	1.25e-04	8.27e-05	6.67e-05	6.01e-05	5.59e-05	5.81e-06
Deg. of Freedom (Type B)	2.24e+12	7.41e+07	4.78e+07	3.23e+05	3.02e+05	7.75e+06	1.00e+09	2.09e+03
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05
Total Uncertainty	6.13e-04	3.51e-04	1.27e-04	8.49e-05	7.07e-05	6.42e-05	5.94e-05	1.93e-05
Degrees of Freedom	2.20e+06	5.17e+05	3.10e+04	6.79e+03	1.34e+03	1.07e+03	1.32e+03	20.6

Uncertainty budget for NIST, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	0.0	0.0	0.0	0.0	2.58e-06	0.0	0.0	0.0	1.00
Temperature	0.0	0.0	2.73e-06	6.27e-06	5.14e-06	2.06e-06	5.69e-07	1.56e-06	0.0
Wavelength	6.11e-04	3.49e-04	1.25e-04	8.23e-05	6.53e-05	5.90e-05	5.57e-05	4.69e-06	0.0
Stray Light	2.87e-06	1.58e-06	2.96e-07	2.15e-07	4.88e-07	5.78e-07	1.26e-07	4.30e-07	1.00
Beam Size & Position	7.78e-08	1.44e-06	1.34e-06	9.46e-07	4.13e-06	3.59e-06	1.68e-06	9.33e-07	1.00
Inter-reflection	9.27e-08	1.71e-06	1.60e-06	1.13e-06	4.92e-06	4.27e-06	2.01e-06	1.11e-06	1.00
Obliquity	8.95e-07	8.95e-07	8.95e-07	8.95e-07	8.95e-07	8.95e-07	8.95e-07	8.95e-07	1.00
Bandwidth	4.48e-08	8.29e-07	7.74e-07	5.45e-07	2.38e-06	2.07e-06	9.69e-07	5.37e-07	1.00
Detector range ratio	0.0	1.80e-06	0.0	0.0	0.0	4.49e-06	0.0	0.0	1.00
Detector reproducibility	1.70e-07	3.15e-06	2.94e-06	2.07e-06	9.04e-06	7.86e-06	3.69e-06	2.04e-06	1.00
Total Type B Uncertainty	6.11e-04	3.49e-04	1.25e-04	8.26e-05	6.65e-05	6.01e-05	5.59e-05	5.66e-06	
Deg. of Freedom (Type B)	9.41e+12	3.61e+08	2.37e+08	1.59e+06	1.49e+06	3.82e+07	4.95e+09	9.18e+03	
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	
Total Uncertainty	6.13e-04	3.51e-04	1.27e-04	8.48e-05	7.07e-05	6.43e-05	5.95e-05	1.95e-05	
Degrees of Freedom	2.20e+06	5.07e+05	2.91e+04	6.48e+03	1.22e+03	982.6	1.24e+03	20.4	

Uncertainty budget for NIST, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Temperature	0.0	1.12e-06	6.75e-07	1.71e-06	2.28e-06	1.08e-06	2.79e-07	7.21e-07
Wavelength	3.75e-05	2.45e-05	6.48e-06	1.39e-05	2.11e-05	5.42e-06	1.50e-05	4.46e-06
Stray Light	1.15e-08	5.95e-08	1.26e-08	6.64e-09	1.27e-08	4.62e-08	7.29e-09	6.31e-09
Beam Size & Position	2.33e-10	3.82e-08	1.02e-07	9.99e-08	1.01e-06	1.49e-06	7.28e-07	3.98e-07
Inter-reflection	5.70e-11	9.33e-09	2.49e-08	2.44e-08	2.46e-07	3.64e-07	1.78e-07	9.72e-08
Obliquity	3.37e-07	3.37e-07	3.37e-07	3.37e-07	3.37e-07	3.37e-07	3.37e-07	3.37e-07
Bandwidth	1.70e-11	2.78e-09	7.42e-09	7.28e-09	7.34e-08	1.09e-07	5.31e-08	2.90e-08
Detector range ratio	3.24e-11	5.30e-09	1.41e-08	1.39e-08	1.40e-07	2.07e-07	1.01e-07	5.52e-08
Detector reproducibility	5.67e-11	9.28e-09	2.47e-08	2.43e-08	2.45e-07	3.62e-07	1.77e-07	9.66e-08
Total Type B Uncertainty	3.75e-05	2.45e-05	6.52e-06	1.41e-05	2.12e-05	5.76e-06	1.50e-05	4.55e-06
Deg. of Freedom (Type B)	1.41e+13	7.70e+06	2.87e+05	1.49e+05	2.50e+05	2.67e+04	2.76e+08	5.26e+04
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05
Total Uncertainty	4.62e-05	3.24e-05	1.51e-05	1.95e-05	2.59e-05	1.62e-05	2.08e-05	1.48e-05
Degrees of Freedom	70.8	46.0	13.1	37.3	109.2	16.2	46.0	11.9

Uncertainty budget for NIST, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Temperature	0.0	8.48e-07	5.09e-07	1.29e-06	1.72e-06	8.15e-07	2.10e-07	5.46e-07	0.0
Wavelength	3.75e-05	2.45e-05	6.48e-06	1.39e-05	2.11e-05	5.42e-06	1.50e-05	4.46e-06	0.0
Stray Light	1.18e-08	5.96e-08	1.26e-08	6.64e-09	1.27e-08	4.62e-08	7.29e-09	6.31e-09	1.00
Beam Size & Position	2.39e-10	3.83e-08	1.02e-07	9.99e-08	1.01e-06	1.49e-06	7.28e-07	3.98e-07	1.00
Inter-reflection	5.85e-11	9.35e-09	2.48e-08	2.44e-08	2.46e-07	3.64e-07	1.78e-07	9.73e-08	1.00
Obliquity	3.37e-07	3.37e-07	3.37e-07	3.37e-07	3.37e-07	3.37e-07	3.37e-07	3.37e-07	1.00
Bandwidth	1.75e-11	2.79e-09	7.41e-09	7.28e-09	7.33e-08	1.09e-07	5.31e-08	2.90e-08	1.00
Detector range ratio	3.33e-11	5.31e-09	1.41e-08	1.39e-08	1.40e-07	2.07e-07	1.01e-07	5.53e-08	1.00
Detector reproducibility	5.82e-11	9.30e-09	2.47e-08	2.43e-08	2.44e-07	3.62e-07	1.77e-07	9.67e-08	1.00
Total Type B Uncertainty	3.75e-05	2.45e-05	6.51e-06	1.40e-05	2.12e-05	5.71e-06	1.50e-05	4.53e-06	
Deg. of Freedom (Type B)	6.19e+13	3.69e+07	1.42e+06	7.39e+05	1.23e+06	1.28e+05	1.36e+09	2.52e+05	
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	
Total Uncertainty	4.62e-05	3.24e-05	1.51e-05	1.95e-05	2.59e-05	1.62e-05	2.08e-05	1.48e-05	
Degrees of Freedom	70.8	45.9	13.1	37.1	108.6	16.3	46.1	12.0	

Uncertainty budget for NIST, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Temperature	0.0	1.19e-07	1.17e-07	3.20e-07	6.74e-07	4.63e-07	1.39e-07	6.25e-07
Wavelength	2.48e-06	2.02e-06	4.12e-07	2.39e-06	7.53e-06	2.44e-06	3.75e-06	2.27e-06
Stray Light	7.23e-11	1.49e-09	5.63e-10	3.12e-10	6.15e-11	5.49e-09	3.16e-09	2.47e-09
Beam Size & Position	1.30e-12	4.88e-10	3.72e-09	4.29e-09	1.05e-07	3.82e-07	2.91e-07	2.08e-07
Inter-reflection	3.47e-13	1.31e-10	9.98e-10	1.15e-09	2.82e-08	1.02e-07	7.79e-08	5.57e-08
Obliquity	1.41e-07	1.41e-07	1.41e-07	1.41e-07	1.41e-07	1.41e-07	1.41e-07	1.41e-07
Bandwidth	4.42e-14	1.66e-11	1.27e-10	1.46e-10	3.59e-09	1.31e-08	9.92e-09	7.10e-09
Detector range ratio	6.81e-14	2.56e-11	1.96e-10	2.25e-10	5.53e-09	2.01e-08	1.53e-08	1.09e-08
Detector reproducibility	1.19e-13	4.48e-11	3.42e-10	3.94e-10	9.67e-09	3.51e-08	2.67e-08	1.91e-08
Total Type B Uncertainty	2.48e-06	2.03e-06	4.51e-07	2.41e-06	7.56e-06	2.52e-06	3.77e-06	2.37e-06
Deg. of Freedom (Type B)	1.39e+13	2.75e+06	7.21e+03	1.07e+05	5.21e+05	2.91e+04	1.80e+07	6.80e+03
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05
Total Uncertainty	2.69e-05	2.11e-05	1.33e-05	1.35e-05	1.54e-05	1.39e-05	1.41e-05	1.38e-05
Degrees of Freedom	8.1	8.2	8.0	8.6	14.4	9.5	10.0	9.1

Uncertainty budget for NIST, Filter E, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Temperature	0.0	9.12e-08	8.86e-08	2.40e-07	5.07e-07	3.49e-07	1.05e-07	4.73e-07	0.0
Wavelength	2.48e-06	2.02e-06	4.12e-07	2.39e-06	7.53e-06	2.44e-06	3.75e-06	2.27e-06	0.0
Stray Light	1.42e-10	1.49e-09	5.64e-10	3.12e-10	6.14e-11	5.48e-09	3.16e-09	2.47e-09	1.00
Beam Size & Position	2.55e-12	4.90e-10	3.73e-09	4.29e-09	1.05e-07	3.82e-07	2.91e-07	2.08e-07	1.00
Inter-reflection	6.82e-13	1.31e-10	9.98e-10	1.15e-09	2.81e-08	1.02e-07	7.78e-08	5.57e-08	1.00
Obliquity	1.41e-07	1.41e-07	1.41e-07	1.41e-07	1.41e-07	1.41e-07	1.41e-07	1.41e-07	1.00
Bandwidth	8.69e-14	1.67e-11	1.27e-10	1.46e-10	3.59e-09	1.30e-08	9.92e-09	7.09e-09	1.00
Detector range ratio	1.34e-13	2.57e-11	1.96e-10	2.25e-10	5.52e-09	2.01e-08	1.53e-08	1.09e-08	1.00
Detector reproducibility	2.34e-13	4.50e-11	3.42e-10	3.94e-10	9.65e-09	3.51e-08	2.67e-08	1.91e-08	1.00
Total Type B Uncertainty	2.48e-06	2.03e-06	4.45e-07	2.40e-06	7.55e-06	2.50e-06	3.77e-06	2.33e-06	
Deg. of Freedom (Type B)	4.53e+12	1.29e+07	3.37e+04	5.32e+05	2.60e+06	1.40e+05	8.88e+07	3.14e+04	
Type A	2.67e-05	2.08e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	1.33e-05	
Total Uncertainty	2.69e-05	2.11e-05	1.33e-05	1.35e-05	1.54e-05	1.39e-05	1.41e-05	1.38e-05	
Degrees of Freedom	8.1	8.2	8.0	8.6	14.4	9.5	10.1	9.1	

Uncertainty budget for NMIJ, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.60e-04	1.60e-04	1.60e-04	1.60e-04	1.60e-04	1.60e-04	1.60e-04	1.60e-04
Temperature	2.50e-04	3.00e-04	9.00e-05	7.40e-05	6.90e-05	1.20e-04	7.90e-06	8.00e-06
Wavelength	2.40e-05	5.70e-07	1.60e-06	6.40e-06	3.00e-06	3.90e-06	5.20e-05	1.30e-06
Stray Light	1.30e-06	1.10e-06	6.60e-07	4.20e-07	2.30e-07	1.00e-07	3.90e-09	9.60e-08
Beam Size & Position	1.40e-05	1.40e-05	1.40e-05	1.40e-05	1.40e-05	1.40e-05	1.40e-05	1.40e-05
Inter-reflection	9.90e-05	9.90e-05	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04
Obliquity	7.60e-05	7.60e-05	7.60e-05	7.60e-05	7.60e-05	7.60e-05	7.60e-05	7.60e-05
Polarization	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04
Bandwidth	1.60e-05	3.70e-07	1.00e-06	4.20e-06	2.00e-06	2.50e-06	3.40e-05	8.30e-07
Filter Stability	3.90e-04	3.40e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04
Total Type B Uncertainty	5.20e-04	5.10e-04	3.10e-04	3.00e-04	3.00e-04	3.20e-04	3.00e-04	3.00e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.40e-04	1.40e-04	1.20e-04	1.20e-04	1.20e-04	1.20e-04	1.20e-04	1.20e-04
Total Uncertainty	5.40e-04	5.30e-04	3.30e-04	3.30e-04	3.30e-04	3.40e-04	3.30e-04	3.20e-04
Degrees of Freedom	1.98e+03	1.82e+03	503.0	479.0	473.0	556.0	464.0	432.0

Uncertainty budget for NMIJ, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.60e-04	1.60e-04	1.60e-04	1.60e-04	1.60e-04	1.60e-04	1.60e-04	1.60e-04	1.00
Temperature	2.50e-04	2.90e-04	8.90e-05	7.30e-05	6.80e-05	1.20e-04	7.70e-06	7.90e-06	0.0
Wavelength	2.40e-05	5.70e-07	1.60e-06	6.40e-06	3.00e-06	3.90e-06	5.20e-05	1.30e-06	1.00
Stray Light	1.30e-06	1.10e-06	6.60e-07	4.20e-07	2.30e-07	1.00e-07	3.90e-09	9.60e-08	1.00
Beam Size & Position	1.40e-05	1.40e-05	1.40e-05	1.40e-05	1.40e-05	1.40e-05	1.40e-05	1.40e-05	1.00
Inter-reflection	9.90e-05	9.90e-05	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00
Obliquity	7.60e-05	7.60e-05	7.60e-05	7.60e-05	7.60e-05	7.60e-05	7.60e-05	7.60e-05	0.0
Polarization	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00e-04	1.00
Bandwidth	1.60e-05	3.70e-07	1.00e-06	4.20e-06	2.00e-06	2.50e-06	3.40e-05	8.30e-07	1.00
Filter Stability	3.90e-04	3.40e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	1.80e-04	0.0
Total Type B Uncertainty	5.20e-04	5.10e-04	3.10e-04	3.00e-04	3.00e-04	3.20e-04	3.00e-04	3.00e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.10e-04	1.10e-04	1.40e-04	1.40e-04	1.40e-04	1.40e-04	1.40e-04	1.40e-04	
Total Uncertainty	5.30e-04	5.20e-04	3.40e-04	3.30e-04	3.30e-04	3.50e-04	3.30e-04	3.30e-04	
Degrees of Freedom	4.55e+03	4.15e+03	319.0	305.0	301.0	350.0	297.0	277.0	

Uncertainty budget for NMIJ, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.00e-04	1.50e-04	1.60e-04	1.50e-04	1.60e-04	1.50e-04	1.30e-04	1.10e-04
Temperature	1.60e-05	2.80e-05	1.30e-05	2.90e-05	1.60e-05	1.10e-05	9.40e-06	1.30e-05
Wavelength	7.50e-04	5.90e-05	1.40e-05	7.70e-07	2.60e-05	9.80e-05	7.80e-05	2.60e-05
Stray Light	2.00e-05	2.00e-05	2.20e-05	2.00e-05	2.50e-05	1.30e-05	1.80e-06	1.10e-05
Beam Size & Position	3.00e-05	4.40e-05	4.50e-05	4.50e-05	4.70e-05	4.20e-05	3.70e-05	3.30e-05
Inter-reflection	4.50e-05	6.60e-05	6.80e-05	6.60e-05	6.90e-05	6.30e-05	5.40e-05	4.90e-05
Obliquity	3.40e-05	5.00e-05	5.10e-05	5.00e-05	5.30e-05	4.80e-05	4.20e-05	3.80e-05
Polarization	7.10e-05	1.00e-04	1.10e-04	1.00e-04	1.10e-04	9.90e-05	8.60e-05	7.80e-05
Bandwidth	4.90e-04	3.90e-05	9.40e-06	5.00e-07	1.70e-05	6.40e-05	5.10e-05	1.70e-05
Filter Stability	1.90e-04	5.90e-05	1.10e-04	1.10e-04	1.10e-04	1.00e-04	9.00e-05	8.10e-05
Total Type B Uncertainty	9.30e-04	2.30e-04	2.40e-04	2.40e-04	2.50e-04	2.50e-04	2.10e-04	1.80e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.90e-04	2.80e-04	1.70e-04	1.70e-04	1.70e-04	1.60e-04	1.40e-04	1.20e-04
Total Uncertainty	9.50e-04	3.60e-04	2.90e-04	2.90e-04	3.00e-04	3.00e-04	2.50e-04	2.20e-04
Degrees of Freedom	5.77e+03	26.0	84.0	85.0	86.0	116.0	110.0	87.0

Uncertainty budget for NMIJ, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.00e-04	1.50e-04	1.60e-04	1.50e-04	1.60e-04	1.50e-04	1.30e-04	1.10e-04	1.00
Temperature	1.70e-05	3.10e-05	1.40e-05	3.10e-05	1.70e-05	1.10e-05	9.50e-06	1.40e-05	0.0
Wavelength	7.50e-04	5.90e-05	1.40e-05	7.70e-07	2.60e-05	9.80e-05	7.80e-05	2.60e-05	1.00
Stray Light	2.00e-05	2.00e-05	2.20e-05	2.00e-05	2.50e-05	1.30e-05	1.80e-06	1.10e-05	1.00
Beam Size & Position	3.00e-05	4.40e-05	4.50e-05	4.50e-05	4.70e-05	4.20e-05	3.70e-05	3.30e-05	1.00
Inter-reflection	4.50e-05	6.60e-05	6.80e-05	6.60e-05	6.90e-05	6.30e-05	5.40e-05	4.90e-05	1.00
Obliquity	3.40e-05	5.00e-05	5.20e-05	5.10e-05	5.30e-05	4.80e-05	4.20e-05	3.80e-05	0.0
Polarization	7.10e-05	1.00e-04	1.10e-04	1.00e-04	1.10e-04	9.90e-05	8.60e-05	7.80e-05	1.00
Bandwidth	4.90e-04	3.90e-05	9.40e-06	5.00e-07	1.70e-05	6.40e-05	5.10e-05	1.70e-05	1.00
Filter Stability	1.90e-04	5.90e-05	1.10e-04	1.10e-04	1.10e-04	1.00e-04	9.00e-05	8.10e-05	0.0
Total Type B Uncertainty	9.30e-04	2.30e-04	2.40e-04	2.40e-04	2.50e-04	2.50e-04	2.10e-04	1.80e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	2.00e-04	3.00e-04	1.30e-04	1.30e-04	1.30e-04	1.20e-04	1.10e-04	9.60e-05	
Total Uncertainty	9.50e-04	3.80e-04	2.80e-04	2.70e-04	2.80e-04	2.80e-04	2.40e-04	2.00e-04	
Degrees of Freedom	4.37e+03	23.0	175.0	177.0	178.0	253.0	237.0	181.0	

Uncertainty budget for NMIJ, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	3.90e-06	1.70e-05	1.60e-05	1.30e-05	2.80e-05	2.60e-05	1.80e-05	1.30e-05
Temperature	3.90e-06	2.30e-05	1.10e-05	2.10e-05	1.90e-05	1.10e-05	7.10e-06	7.60e-06
Wavelength	2.00e-04	6.40e-05	4.30e-05	2.30e-05	1.70e-04	6.10e-05	2.40e-05	2.30e-05
Stray Light	1.80e-05	2.90e-06	3.60e-06	6.60e-06	1.00e-05	8.10e-06	1.40e-06	6.70e-06
Beam Size & Position	1.50e-06	6.40e-06	6.20e-06	5.20e-06	1.10e-05	1.00e-05	6.90e-06	5.10e-06
Inter-reflection	2.40e-06	1.00e-05	1.00e-05	8.40e-06	1.80e-05	1.60e-05	1.10e-05	8.40e-06
Obliquity	1.90e-06	7.90e-06	7.70e-06	6.40e-06	1.30e-05	1.20e-05	8.60e-06	6.40e-06
Polarization	5.00e-06	2.10e-05	2.10e-05	1.70e-05	3.60e-05	3.40e-05	2.30e-05	1.70e-05
Bandwidth	1.30e-04	4.20e-05	2.80e-05	1.50e-05	1.10e-04	4.00e-05	1.60e-05	1.50e-05
Filter Stability	3.60e-05	3.10e-05	3.90e-05	3.30e-05	6.80e-05	6.30e-05	4.30e-05	3.20e-05
Total Type B Uncertainty	2.40e-04	9.10e-05	7.20e-05	5.40e-05	2.20e-04	1.10e-04	6.20e-05	5.00e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	4.60e-05	1.10e-04	6.90e-05	5.80e-05	1.20e-04	1.10e-04	7.70e-05	6.30e-05
Total Uncertainty	2.50e-04	1.40e-04	1.00e-04	7.90e-05	2.50e-04	1.60e-04	9.90e-05	8.00e-05
Degrees of Freedom	7.67e+03	25.0	39.0	32.0	174.0	34.0	24.0	24.0

Uncertainty budget for NMIJ, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	3.90e-06	1.70e-05	1.60e-05	1.30e-05	2.80e-05	2.60e-05	1.80e-05	1.30e-05	1.00
Temperature	4.50e-06	2.80e-05	1.30e-05	2.50e-05	2.20e-05	1.20e-05	7.20e-06	8.40e-06	0.0
Wavelength	2.00e-04	6.40e-05	4.30e-05	2.30e-05	1.70e-04	6.10e-05	2.40e-05	2.30e-05	1.00
Stray Light	1.80e-05	2.90e-06	3.60e-06	6.60e-06	1.00e-05	8.10e-06	1.40e-06	6.70e-06	1.00
Beam Size & Position	1.50e-06	6.40e-06	6.20e-06	5.20e-06	1.10e-05	1.00e-05	6.90e-06	5.10e-06	1.00
Inter-reflection	2.40e-06	1.00e-05	1.00e-05	8.40e-06	1.80e-05	1.60e-05	1.10e-05	8.40e-06	1.00
Obliquity	1.90e-06	7.90e-06	7.70e-06	6.40e-06	1.30e-05	1.20e-05	8.60e-06	6.40e-06	0.0
Polarization	5.00e-06	2.10e-05	2.10e-05	1.70e-05	3.60e-05	3.40e-05	2.30e-05	1.70e-05	1.00
Bandwidth	1.30e-04	4.20e-05	2.80e-05	1.50e-05	1.10e-04	4.00e-05	1.60e-05	1.50e-05	1.00
Filter Stability	3.60e-05	3.10e-05	3.90e-05	3.30e-05	6.80e-05	6.30e-05	4.30e-05	3.20e-05	0.0
Total Type B Uncertainty	2.40e-04	9.20e-05	7.20e-05	5.60e-05	2.20e-04	1.10e-04	6.20e-05	5.00e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	3.90e-05	3.90e-05	1.00e-04	8.70e-05	1.80e-04	1.70e-04	1.20e-04	4.30e-05	
Total Uncertainty	2.50e-04	1.00e-04	1.30e-04	1.00e-04	2.90e-04	2.00e-04	1.30e-04	6.60e-05	
Degrees of Freedom	1.46e+04	408.0	20.0	18.0	56.0	18.0	15.0	51.0	

Uncertainty budget for NMIJ, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.50e-07	2.00e-06	3.20e-06	3.20e-06	1.00e-05	1.20e-05	8.50e-06	6.30e-06
Temperature	1.50e-07	3.00e-06	2.10e-06	4.60e-06	6.50e-06	4.30e-06	2.70e-06	2.80e-06
Wavelength	1.00e-05	2.00e-05	2.80e-06	5.30e-06	4.10e-05	1.00e-05	4.50e-05	3.50e-06
Stray Light	4.90e-06	3.90e-06	3.20e-06	3.20e-06	5.70e-07	1.70e-06	2.50e-07	1.50e-06
Beam Size & Position	1.00e-07	1.40e-06	2.30e-06	2.20e-06	7.00e-06	8.50e-06	6.00e-06	4.40e-06
Inter-reflection	4.40e-08	5.90e-07	9.60e-07	9.50e-07	3.00e-06	3.60e-06	2.60e-06	1.90e-06
Obliquity	3.30e-08	4.50e-07	7.30e-07	7.20e-07	2.30e-06	2.80e-06	1.90e-06	1.40e-06
Polarization	4.10e-07	5.50e-06	9.00e-06	8.90e-06	2.80e-05	3.40e-05	2.40e-05	1.80e-05
Bandwidth	6.70e-06	1.30e-05	1.80e-06	3.50e-06	2.60e-05	6.60e-06	2.90e-05	2.30e-06
Filter Stability	8.80e-06	2.30e-05	1.90e-05	1.00e-05	3.30e-05	4.00e-05	2.80e-05	2.10e-05
Total Type B Uncertainty	1.60e-05	3.40e-05	2.20e-05	1.70e-05	6.60e-05	5.60e-05	6.60e-05	2.90e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	8.80e-06	2.40e-05	3.80e-05	3.20e-05	8.20e-05	1.00e-04	7.00e-05	3.60e-05
Total Uncertainty	1.80e-05	4.20e-05	4.40e-05	3.60e-05	1.10e-04	1.10e-04	9.60e-05	4.60e-05
Degrees of Freedom	162.0	77.0	16.0	14.0	24.0	16.0	31.0	25.0

Uncertainty budget for NMIJ, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.60e-07	2.00e-06	3.20e-06	3.20e-06	1.00e-05	1.20e-05	8.60e-06	6.40e-06	1.00
Temperature	1.70e-07	3.40e-06	2.30e-06	5.10e-06	7.20e-06	4.50e-06	2.70e-06	3.00e-06	0.0
Wavelength	1.00e-05	2.00e-05	2.80e-06	5.30e-06	4.10e-05	1.00e-05	4.50e-05	3.50e-06	1.00
Stray Light	4.90e-06	3.90e-06	3.20e-06	3.20e-06	5.70e-07	1.70e-06	2.50e-07	1.50e-06	1.00
Beam Size & Position	1.10e-07	1.40e-06	2.30e-06	2.20e-06	7.00e-06	8.50e-06	6.00e-06	4.50e-06	1.00
Inter-reflection	4.70e-08	6.00e-07	9.70e-07	9.60e-07	3.00e-06	3.60e-06	2.60e-06	1.90e-06	1.00
Obliquity	3.60e-08	4.60e-07	7.40e-07	7.30e-07	2.30e-06	2.80e-06	2.00e-06	1.40e-06	0.0
Polarization	4.40e-07	5.60e-06	9.00e-06	8.90e-06	2.80e-05	3.40e-05	2.40e-05	1.80e-05	1.00
Bandwidth	6.70e-06	1.30e-05	1.80e-06	3.50e-06	2.60e-05	6.60e-06	2.90e-05	2.30e-06	1.00
Filter Stability	8.80e-06	2.30e-05	1.90e-05	1.00e-05	3.30e-05	4.00e-05	2.80e-05	2.10e-05	0.0
Total Type B Uncertainty	1.60e-05	3.40e-05	2.20e-05	1.70e-05	6.60e-05	5.60e-05	6.60e-05	2.90e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	7.00e-06	2.60e-05	1.30e-05	1.30e-05	5.60e-05	6.70e-05	4.70e-05	3.60e-05	
Total Uncertainty	1.70e-05	4.30e-05	2.60e-05	2.10e-05	8.70e-05	8.70e-05	8.10e-05	4.60e-05	
Degrees of Freedom	327.0	63.0	126.0	60.0	53.0	26.0	77.0	24.0	

Uncertainty budget for NMIJ, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	4.30e-09	1.10e-07	3.20e-07	3.40e-07	1.70e-06	3.30e-06	2.90e-06	2.40e-06
Temperature	6.70e-09	2.80e-07	3.20e-07	7.60e-07	1.70e-06	1.70e-06	1.20e-06	1.70e-06
Wavelength	1.30e-06	1.70e-06	2.60e-07	4.90e-07	1.00e-05	2.20e-06	2.00e-05	2.30e-06
Stray Light	1.70e-06	1.60e-06	1.50e-06	1.50e-06	6.60e-07	2.70e-07	1.40e-08	2.80e-07
Beam Size & Position	1.40e-09	3.50e-08	9.80e-08	1.10e-07	5.30e-07	1.00e-06	9.10e-07	7.30e-07
Inter-reflection	4.00e-09	1.10e-07	2.90e-07	3.20e-07	1.60e-06	3.10e-06	2.70e-06	2.20e-06
Obliquity	1.00e-09	2.70e-08	7.50e-08	8.20e-08	4.10e-07	7.90e-07	6.90e-07	5.60e-07
Polarization	3.80e-08	9.90e-07	2.80e-06	3.00e-06	1.50e-05	2.90e-05	2.60e-05	2.10e-05
Bandwidth	8.70e-07	1.10e-06	1.70e-07	3.20e-07	6.70e-06	1.40e-06	1.30e-05	1.50e-06
Filter Stability	3.90e-07	9.00e-07	3.80e-06	4.10e-06	2.00e-05	3.80e-05	3.30e-05	2.70e-05
Total Type B Uncertainty	2.30e-06	2.90e-06	4.90e-06	5.40e-06	2.80e-05	4.80e-05	4.80e-05	3.40e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	6.20e-06	7.40e-06	5.80e-06	6.40e-06	5.20e-05	4.40e-05	3.80e-05	8.70e-05
Total Uncertainty	6.60e-06	7.90e-06	7.70e-06	8.30e-06	5.90e-05	6.50e-05	6.20e-05	9.40e-05
Degrees of Freedom	12.0	12.0	27.0	27.0	15.0	44.0	60.0	12.0

Uncertainty budget for NMIJ, Filter E, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	4.80e-09	1.10e-07	3.20e-07	3.50e-07	1.80e-06	3.30e-06	2.90e-06	2.50e-06	1.00
Temperature	7.80e-09	3.00e-07	3.50e-07	8.10e-07	1.90e-06	1.80e-06	1.20e-06	1.90e-06	0.0
Wavelength	1.30e-06	1.70e-06	2.60e-07	4.90e-07	1.00e-05	2.20e-06	2.00e-05	2.30e-06	1.00
Stray Light	1.70e-06	1.60e-06	1.50e-06	1.50e-06	6.60e-07	2.70e-07	1.40e-08	2.80e-07	1.00
Beam Size & Position	4.50e-09	1.10e-07	3.00e-07	3.20e-07	1.60e-06	3.10e-06	2.70e-06	2.30e-06	1.00
Inter-reflection	1.50e-09	3.60e-08	1.00e-07	1.10e-07	5.50e-07	1.00e-06	9.10e-07	7.70e-07	1.00
Obliquity	1.10e-09	2.70e-08	7.60e-08	8.20e-08	4.20e-07	7.90e-07	6.90e-07	5.80e-07	0.0
Polarization	4.20e-08	1.00e-06	2.80e-06	3.00e-06	1.50e-05	2.90e-05	2.50e-05	2.20e-05	1.00
Bandwidth	8.70e-07	1.10e-06	1.70e-07	3.20e-07	6.70e-06	1.40e-06	1.30e-05	1.50e-06	1.00
Filter Stability	3.90e-07	9.00e-07	3.80e-06	4.10e-06	2.00e-05	3.80e-05	3.30e-05	2.70e-05	0.0
Total Type B Uncertainty	2.30e-06	2.90e-06	5.00e-06	5.40e-06	2.80e-05	4.80e-05	4.80e-05	3.50e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	2.60e-06	4.90e-06	5.00e-06	5.40e-06	7.70e-06	1.50e-05	1.30e-05	7.90e-06	
Total Uncertainty	3.50e-06	5.70e-06	7.00e-06	7.60e-06	2.90e-05	5.00e-05	5.00e-05	3.60e-05	
Degrees of Freedom	30.0	16.0	36.0	37.0	1.86e+03	1.27e+03	2.11e+03	3.82e+03	

Uncertainty budget for NMISA, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04
Wavelength	3.04e-04	3.30e-04	1.61e-04	1.05e-04	8.73e-05	9.63e-05	1.65e-04	1.62e-04
Stray light	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06
Beam size & Position	4.04e-04	4.04e-04	2.31e-04	1.16e-04	1.16e-04	1.16e-04	2.31e-04	1.73e-04
Inter-reflection	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05
Obliquity	5.31e-04	5.31e-04	5.71e-04	6.12e-04	3.67e-04	1.22e-04	9.55e-03	7.96e-03
Polarization	1.95e-03	1.60e-03	5.50e-04	1.50e-04	1.00e-04	2.95e-03	0.01	0.02
Source Drift & Fluctuation	4.04e-04	4.04e-04	2.31e-04	1.16e-04	1.16e-04	1.16e-04	2.31e-04	1.73e-04
Bandwidth	4.62e-04	3.46e-04	1.16e-04	5.77e-05	2.89e-04	4.04e-04	4.04e-04	9.24e-04
Photometric Accuracy	3.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	3.00e-03	3.00e-03
Total Type B Uncertainty	3.72e-03	4.42e-03	4.11e-03	4.07e-03	4.05e-03	5.00e-03	0.01	0.02
Degrees of Freedom	2.59e+03	1.13e+04	2.72e+05	3.74e+05	1.80e+06	1.65e+03	438.0	277.0
Type A	1.50e-03	1.62e-03	7.90e-04	5.10e-04	4.30e-04	4.70e-04	8.00e-04	7.90e-04
Total Uncertainty	4.02e-03	4.71e-03	4.19e-03	4.11e-03	4.08e-03	5.03e-03	1.44e-02	2.15e-02
Degrees of Freedom	237.0	346.0	3.86e+03	1.97e+04	3.90e+04	1.64e+03	441.0	277.0

Uncertainty budget for NMISA, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	1.00
Wavelength	3.10e-04	1.86e-04	2.52e-04	1.66e-04	2.07e-04	2.04e-04	3.04e-03	1.38e-03	-0.1
Stray light	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00
Beam size & Position	4.04e-04	2.31e-04	3.46e-04	2.31e-04	2.89e-04	2.31e-04	3.87e-03	1.73e-03	-0.0
Inter-reflection	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	1.00
Obliquity	5.31e-04	5.31e-04	5.71e-04	6.12e-04	3.67e-04	1.22e-04	9.55e-03	7.96e-03	1.00
Polarization	1.95e-03	1.60e-03	5.50e-04	1.50e-04	1.00e-04	2.95e-03	0.01	0.02	1.00
Source Drift & Fluctuation	4.04e-04	2.31e-04	3.46e-04	2.31e-04	2.89e-04	2.31e-04	3.87e-03	1.73e-03	-0.0
Bandwidth	4.62e-04	3.46e-04	1.16e-04	5.77e-05	2.89e-04	4.04e-04	4.04e-04	9.24e-04	1.00
Photometric Accuracy	3.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	3.00e-03	3.00e-03	1.00
Total Type B Uncertainty	3.72e-03	4.38e-03	4.13e-03	4.08e-03	4.07e-03	5.01e-03	0.02	0.02	
Degrees of Freedom	2.59e+03	1.10e+04	2.46e+05	3.64e+05	1.21e+06	1.66e+03	606.0	286.0	
Type A	1.53e-03	9.20e-04	1.24e-03	8.20e-04	1.01e-03	1.00e-03	1.51e-02	6.69e-03	
Total Uncertainty	4.03e-03	4.48e-03	4.32e-03	4.17e-03	4.20e-03	5.11e-03	2.18e-02	2.27e-02	
Degrees of Freedom	222.0	2.27e+03	726.0	3.27e+03	1.47e+03	1.18e+03	21.0	224.0	

Uncertainty budget for NMISA, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04
Temperature	3.27e-04	4.49e-04	1.63e-04	5.31e-04	2.04e-04	1.22e-04	4.08e-05	2.04e-04
Wavelength	1.37e-04	9.18e-05	8.26e-05	5.13e-05	8.95e-05	8.50e-05	8.85e-05	3.46e-05
Stray light	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06
Beam size & Position	4.04e-04	1.73e-04	1.73e-04	1.16e-04	1.73e-04	1.73e-04	1.73e-04	5.77e-05
Inter-reflection	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05
Obliquity	5.31e-04	5.31e-04	5.71e-04	6.12e-04	3.67e-04	1.22e-04	9.55e-03	7.96e-03
Polarization	1.95e-03	1.60e-03	5.50e-04	1.50e-04	1.00e-04	2.95e-03	0.01	0.02
Source Drift & Fluctuation	4.04e-04	1.73e-04	1.73e-04	1.16e-04	1.73e-04	1.73e-04	1.73e-04	5.77e-05
Bandwidth	4.62e-04	3.46e-04	1.16e-04	5.77e-05	2.89e-04	4.04e-04	4.04e-04	9.24e-04
Photometric Accuracy	3.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	3.00e-03	3.00e-03
Total Type B Uncertainty	3.72e-03	4.40e-03	4.10e-03	4.10e-03	4.06e-03	5.01e-03	0.01	0.02
Degrees of Freedom	2.60e+03	1.11e+04	2.76e+05	2.50e+05	1.64e+06	1.65e+03	438.0	277.0
Type A	1.51e-03	6.80e-04	6.00e-04	3.80e-04	6.30e-04	6.60e-04	7.70e-04	3.30e-04
Total Uncertainty	4.02e-03	4.46e-03	4.15e-03	4.12e-03	4.11e-03	5.06e-03	1.44e-02	2.15e-02
Degrees of Freedom	233.0	5.12e+03	1.09e+04	5.41e+04	8.91e+03	1.56e+03	440.0	277.0

Uncertainty budget for NMISA, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	1.00
Temperature	2.45e-04	3.67e-04	1.63e-04	4.08e-04	2.04e-04	1.22e-04	4.08e-05	1.63e-04	0.99
Wavelength	1.75e-04	1.44e-04	1.76e-04	1.18e-04	4.41e-05	6.14e-05	1.27e-03	4.18e-04	-0.1
Stray light	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00
Beam size & Position	5.20e-04	2.89e-04	3.46e-04	2.31e-04	5.77e-05	1.16e-04	2.83e-03	1.04e-03	-0.1
Inter-reflection	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	1.00
Obliquity	5.31e-04	5.31e-04	5.71e-04	6.12e-04	3.67e-04	1.22e-04	9.55e-03	7.96e-03	1.00
Polarization	1.95e-03	1.60e-03	5.50e-04	1.50e-04	1.00e-04	2.95e-03	0.01	0.02	1.00
Source Drift & Fluctuation	5.20e-04	2.89e-04	3.46e-04	2.31e-04	5.77e-05	1.16e-04	2.83e-03	1.04e-03	-0.1
Bandwidth	4.62e-04	3.46e-04	1.16e-04	5.77e-05	2.89e-04	4.04e-04	4.04e-04	9.24e-04	1.00
Photometric Accuracy	3.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	3.00e-03	3.00e-03	1.00
Total Type B Uncertainty	3.75e-03	4.40e-03	4.13e-03	4.10e-03	4.05e-03	5.00e-03	0.01	0.02	
Degrees of Freedom	2.66e+03	1.12e+04	2.48e+05	3.14e+05	1.73e+06	1.65e+03	514.0	279.0	
Type A	1.91e-03	1.07e-03	1.27e-03	8.70e-04	3.10e-04	4.80e-04	1.10e-02	4.10e-03	
Total Uncertainty	4.21e-03	4.53e-03	4.33e-03	4.20e-03	4.07e-03	5.03e-03	1.86e-02	2.18e-02	
Degrees of Freedom	114.0	1.42e+03	665.0	2.66e+03	1.35e+05	1.63e+03	38.0	279.0	

Uncertainty budget for NMISA, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04
Temperature	7.76e-04	1.39e-03	6.53e-04	2.16e-03	8.16e-04	3.27e-04	1.63e-04	7.76e-04
Wavelength	2.34e-05	1.79e-05	2.00e-05	2.20e-05	2.45e-05	1.97e-05	3.01e-05	1.52e-05
Stray light	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06
Beam size & Position	1.27e-03	2.31e-04	2.31e-04	3.46e-04	1.73e-04	1.73e-04	3.46e-04	2.31e-04
Inter-reflection	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05
Obliquity	5.31e-04	5.31e-04	5.71e-04	6.12e-04	3.67e-04	1.22e-04	9.55e-03	7.96e-03
Polarization	1.95e-03	1.60e-03	5.50e-04	1.50e-04	1.00e-04	2.95e-03	0.01	0.02
Source Drift & Fluctuation	1.27e-03	2.31e-04	2.31e-04	3.46e-04	1.73e-04	1.73e-04	3.46e-04	2.31e-04
Bandwidth	4.62e-04	3.46e-04	1.16e-04	5.77e-05	2.89e-04	4.04e-04	4.04e-04	9.24e-04
Photometric Accuracy	3.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	3.00e-03	3.00e-03
Total Type B Uncertainty	4.15e-03	4.59e-03	4.16e-03	4.63e-03	4.13e-03	5.02e-03	0.01	0.02
Degrees of Freedom	2.93e+03	8.56e+03	1.52e+05	4.14e+03	1.22e+05	1.66e+03	439.0	277.0
Type A	4.98e-03	8.60e-04	9.90e-04	1.29e-03	6.90e-04	6.00e-04	1.25e-03	8.50e-04
Total Uncertainty	6.49e-03	4.67e-03	4.28e-03	4.81e-03	4.19e-03	5.06e-03	1.44e-02	2.15e-02
Degrees of Freedom	14.0	2.95e+03	1.71e+03	800.0	6.42e+03	1.60e+03	443.0	278.0

Uncertainty budget for NMISA, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	1.00
Temperature	8.98e-04	1.67e-03	7.35e-04	2.08e-03	8.57e-04	3.67e-04	1.63e-04	5.31e-04	0.97
Wavelength	2.14e-05	1.02e-05	2.31e-05	9.43e-06	1.81e-05	2.73e-05	1.45e-03	9.27e-04	0.36
Stray light	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00
Beam size & Position	1.15e-03	1.16e-04	2.89e-04	1.16e-04	1.16e-04	2.31e-04	0.02	0.01	-0.1
Inter-reflection	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	1.00
Obliquity	5.31e-04	5.31e-04	5.71e-04	6.12e-04	3.67e-04	1.22e-04	9.55e-03	7.96e-03	1.00
Polarization	1.95e-03	1.60e-03	5.50e-04	1.50e-04	1.00e-04	2.95e-03	0.01	0.02	1.00
Source Drift & Fluctuation	1.15e-03	1.16e-04	2.89e-04	1.16e-04	1.16e-04	2.31e-04	0.02	0.01	-0.1
Bandwidth	4.62e-04	3.46e-04	1.16e-04	5.77e-05	2.89e-04	4.04e-04	4.04e-04	9.24e-04	1.00
Photometric Accuracy	3.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	3.00e-03	3.00e-03	1.00
Total Type B Uncertainty	4.11e-03	4.68e-03	4.18e-03	4.57e-03	4.13e-03	5.02e-03	0.03	0.03	
Degrees of Freedom	3.02e+03	6.59e+03	1.19e+05	4.58e+03	1.02e+05	1.67e+03	700.0	633.0	
Type A	4.42e-03	4.90e-04	1.14e-03	5.60e-04	5.10e-04	8.20e-04	5.99e-02	5.38e-02	
Total Uncertainty	6.04e-03	4.71e-03	4.34e-03	4.61e-03	4.17e-03	5.09e-03	6.54e-02	6.12e-02	
Degrees of Freedom	17.0	5.81e+03	1.03e+03	3.91e+03	1.83e+04	1.42e+03	7.0	8.0	

Uncertainty budget for NMISA, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04
Temperature	2.16e-03	4.04e-03	1.47e-03	3.80e-03	2.25e-03	8.57e-04	3.27e-04	1.14e-03
Wavelength	0.0	6.09e-06	0.0	6.09e-06	9.13e-06	1.12e-05	2.19e-05	1.39e-05
Stray light	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06
Beam size & Position	0.0	1.39e-03	0.0	8.66e-04	4.04e-04	4.04e-04	1.04e-03	9.24e-04
Inter-reflection	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05
Obliquity	5.31e-04	5.31e-04	5.71e-04	6.12e-04	3.67e-04	1.22e-04	9.55e-03	7.96e-03
Polarization	1.95e-03	1.60e-03	5.50e-04	1.50e-04	1.00e-04	2.95e-03	0.01	0.02
Source Drift & Fluctuation	0.0	1.39e-03	0.0	8.66e-04	4.04e-04	4.04e-04	1.04e-03	9.24e-04
Bandwidth	4.62e-04	3.46e-04	1.16e-04	5.77e-05	2.89e-04	4.04e-04	4.04e-04	9.24e-04
Photometric Accuracy	3.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	3.00e-03	3.00e-03
Total Type B Uncertainty	4.25e-03	6.27e-03	4.35e-03	5.70e-03	4.66e-03	5.10e-03	0.01	0.02
Degrees of Freedom	1.78e+03	1.09e+03	1.46e+04	1.00e+03	3.68e+03	1.77e+03	448.0	280.0
Type A	0.00e+00	5.44e-03	0.00e+00	3.29e-03	1.56e-03	1.58e-03	4.10e-03	3.56e-03
Total Uncertainty	4.25e-03	8.31e-03	4.35e-03	6.59e-03	4.92e-03	5.34e-03	1.50e-02	2.18e-02
Degrees of Freedom	1.78e+03	27.0	1.46e+04	76.0	443.0	500.0	327.0	284.0

Uncertainty budget for NMISA, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	2.50e-04	1.00
Temperature	2.29e-03	4.57e-03	1.71e-03	4.41e-03	1.88e-03	7.35e-04	2.45e-04	8.98e-04	0.99
Wavelength	5.61e-06	1.31e-05	1.13e-05	1.03e-05	1.19e-05	3.21e-05	2.07e-03	5.47e-04	0.82
Stray light	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00e-06	1.00
Beam size & Position	0.02	3.00e-03	1.56e-03	1.44e-03	5.20e-04	1.15e-03	0.10	0.04	0.36
Inter-reflection	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	5.00e-05	1.00
Obliquity	5.31e-04	5.31e-04	5.71e-04	6.12e-04	3.67e-04	1.22e-04	9.55e-03	7.96e-03	1.00
Polarization	1.95e-03	1.60e-03	5.50e-04	1.50e-04	1.00e-04	2.95e-03	0.01	0.02	1.00
Source Drift & Fluctuation	0.02	3.00e-03	1.56e-03	1.44e-03	5.20e-04	1.15e-03	0.10	0.04	0.36
Bandwidth	4.62e-04	3.46e-04	1.16e-04	5.77e-05	2.89e-04	4.04e-04	4.04e-04	9.24e-04	1.00
Photometric Accuracy	3.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	4.00e-03	3.00e-03	3.00e-03	1.00
Total Type B Uncertainty	0.02	7.62e-03	4.96e-03	6.34e-03	4.52e-03	5.31e-03	0.14	0.06	
Degrees of Freedom	427.0	1.11e+03	5.82e+03	830.0	6.57e+03	1.99e+03	409.0	500.0	
Type A	6.46e-02	1.16e-02	6.07e-03	5.55e-03	2.03e-03	4.50e-03	0.4	0.2	
Total Uncertainty	6.90e-02	1.39e-02	7.84e-03	8.43e-03	4.96e-03	6.97e-03	0.4	0.2	
Degrees of Freedom	6.0	10.0	14.0	26.0	173.0	28.0	6.0	7.0	

Uncertainty budget for NPL, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	3.65e-05	2.29e-05	1.83e-05	1.84e-05	1.84e-05	1.84e-05	1.38e-05	9.21e-06
Wavelength	1.14e-05	3.94e-06	9.00e-07	1.61e-06	1.54e-06	2.78e-07	4.89e-07	1.99e-06
Stray Light	9.13e-05	9.15e-05	9.17e-05	9.18e-05	9.19e-05	9.20e-05	9.21e-05	9.21e-05
Inter-reflection	9.13e-05	9.15e-05	9.17e-05	9.18e-05	9.19e-05	9.20e-05	9.21e-05	9.21e-05
Obliquity	1.51e-06	1.48e-06	1.44e-06	1.42e-06	1.42e-06	1.41e-06	1.41e-06	1.41e-06
Polarization	3.96e-05	3.96e-05	3.97e-05	3.98e-05	3.98e-05	3.99e-05	3.99e-05	3.99e-05
Bandwidth	2.45e-07	3.15e-06	5.28e-07	1.64e-08	1.60e-06	1.27e-06	5.86e-07	3.45e-06
Detector electronics	9.13e-06	9.15e-06	9.17e-06	9.18e-06	9.19e-06	9.20e-06	9.21e-06	9.21e-06
Filter instability	1.10e-04	1.12e-04	9.89e-05	7.87e-05	6.81e-05	5.57e-05	6.11e-05	6.16e-05
System reproducibility	0.0	0.0	0.0	0.0	6.00e-05	0.0	0.0	0.0
Total Type B Uncertainty	1.79e-04	1.77e-04	1.69e-04	1.58e-04	1.65e-04	1.49e-04	1.50e-04	1.50e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	4.31e-05	2.69e-05	2.53e-05	1.68e-05	3.74e-05	5.04e-05	1.50e-05	3.19e-05
Total Uncertainty	1.84e-04	1.79e-04	1.71e-04	1.59e-04	1.69e-04	1.57e-04	1.51e-04	1.54e-04
Degrees of Freedom	inf	inf	inf	inf	inf	484.0	inf	inf

Uncertainty budget for NPL, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	3.65e-05	2.29e-05	1.83e-05	1.84e-05	1.84e-05	1.84e-05	1.38e-05	9.21e-06	1.00
Wavelength	1.14e-05	3.94e-06	9.00e-07	1.61e-06	1.54e-06	2.78e-07	4.89e-07	1.99e-06	1.00
Stray Light	9.13e-05	9.15e-05	9.17e-05	9.18e-05	9.19e-05	9.20e-05	9.21e-05	9.21e-05	1.00
Inter-reflection	9.13e-05	9.15e-05	9.17e-05	9.18e-05	9.19e-05	9.20e-05	9.21e-05	9.21e-05	1.00
Obliquity	1.51e-06	1.48e-06	1.44e-06	1.42e-06	1.42e-06	1.41e-06	1.41e-06	1.41e-06	1.00
Polarization	3.96e-05	3.96e-05	3.97e-05	3.98e-05	3.98e-05	3.99e-05	3.99e-05	3.99e-05	1.00
Bandwidth	2.45e-07	3.15e-06	5.28e-07	1.64e-08	1.60e-06	1.27e-06	5.86e-07	3.45e-06	1.00
Detector electronics	9.13e-06	9.15e-06	9.17e-06	9.18e-06	9.19e-06	9.20e-06	9.21e-06	9.21e-06	1.00
Filter instability	1.10e-04	1.12e-04	9.89e-05	7.87e-05	6.81e-05	5.57e-05	6.11e-05	6.16e-05	0.0
System reproducibility	0.0	0.0	0.0	0.0	6.00e-05	0.0	0.0	0.0	0.0
Total Type B Uncertainty	1.79e-04	1.77e-04	1.69e-04	1.58e-04	1.65e-04	1.49e-04	1.50e-04	1.50e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	2.70e-05	2.02e-05	1.00e-05	6.64e-06	7.09e-06	7.30e-06	2.03e-05	1.69e-05	
Total Uncertainty	1.81e-04	1.79e-04	1.69e-04	1.58e-04	1.65e-04	1.49e-04	1.52e-04	1.51e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	

Uncertainty budget for NPL, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	8.14e-05	9.11e-05	6.21e-05	6.08e-05	6.36e-05	5.75e-05	4.00e-05	2.26e-05
Temperature	3.33e-08	5.86e-08	2.70e-08	6.03e-08	3.39e-08	2.21e-08	1.97e-08	2.77e-08
Wavelength	9.08e-04	8.46e-05	1.15e-05	6.56e-06	2.30e-05	8.39e-05	6.41e-05	3.16e-05
Stray Light	4.07e-05	6.07e-05	6.21e-05	6.08e-05	6.36e-05	5.75e-05	5.00e-05	4.51e-05
Inter-reflection	4.07e-05	6.07e-05	6.21e-05	6.08e-05	6.36e-05	5.75e-05	5.00e-05	4.51e-05
Obliquity	1.92e-05	1.47e-05	1.43e-05	1.47e-05	1.37e-05	1.57e-05	1.77e-05	1.87e-05
Polarization	1.76e-05	2.63e-05	2.69e-05	2.64e-05	2.75e-05	2.49e-05	2.16e-05	1.96e-05
Bandwidth	2.78e-04	5.29e-05	8.45e-07	8.96e-07	2.66e-06	1.23e-06	5.78e-07	1.15e-06
Detector Electronics	8.14e-06	1.21e-05	1.24e-05	1.22e-05	1.27e-05	1.15e-05	1.00e-05	9.03e-06
Filter instability	2.31e-04	1.29e-04	1.33e-04	7.16e-05	6.53e-05	1.02e-04	8.21e-05	4.80e-05
System reproducibility	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.50e-05
Total Type B Uncertainty	9.83e-04	2.08e-04	1.75e-04	1.32e-04	1.34e-04	1.68e-04	1.35e-04	9.96e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.43e-04	2.12e-05	2.29e-05	1.75e-05	2.64e-05	1.81e-05	9.79e-06	1.92e-05
Total Uncertainty	9.94e-04	2.09e-04	1.76e-04	1.33e-04	1.37e-04	1.69e-04	1.36e-04	1.01e-04
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf

Uncertainty budget for NPL, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	8.14e-05	9.11e-05	6.21e-05	6.08e-05	6.36e-05	5.75e-05	4.00e-05	2.26e-05	1.00
Temperature	3.33e-08	5.86e-08	2.70e-08	6.03e-08	3.39e-08	2.21e-08	1.97e-08	2.77e-08	1.00
Wavelength	9.08e-04	8.46e-05	1.15e-05	6.56e-06	2.30e-05	8.39e-05	6.41e-05	3.16e-05	1.00
Stray Light	4.07e-05	6.07e-05	6.21e-05	6.08e-05	6.36e-05	5.75e-05	5.00e-05	4.51e-05	1.00
Inter-reflection	4.07e-05	6.07e-05	6.21e-05	6.08e-05	6.36e-05	5.75e-05	5.00e-05	4.51e-05	1.00
Obliquity	1.92e-05	1.47e-05	1.43e-05	1.47e-05	1.37e-05	1.57e-05	1.77e-05	1.87e-05	1.00
Polarization	1.76e-05	2.63e-05	2.69e-05	2.64e-05	2.75e-05	2.49e-05	2.16e-05	1.96e-05	1.00
Bandwidth	2.78e-04	5.29e-05	8.45e-07	8.96e-07	2.66e-06	1.23e-06	5.78e-07	1.15e-06	1.00
Detector Electronics	8.14e-06	1.21e-05	1.24e-05	1.22e-05	1.27e-05	1.15e-05	1.00e-05	9.03e-06	1.00
Filter instability	2.31e-04	1.29e-04	1.33e-04	7.16e-05	6.53e-05	1.02e-04	8.21e-05	4.80e-05	0.0
System reproducibility	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.50e-05	0.0
Total Type B Uncertainty	9.83e-04	2.08e-04	1.75e-04	1.32e-04	1.34e-04	1.68e-04	1.35e-04	9.96e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	7.53e-05	3.96e-05	1.98e-05	1.53e-05	1.46e-05	1.22e-05	2.03e-05	1.24e-05	
Total Uncertainty	9.86e-04	2.12e-04	1.76e-04	1.33e-04	1.35e-04	1.69e-04	1.37e-04	1.00e-04	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	

Uncertainty budget for NPL, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	8.60e-06	2.87e-05	1.84e-05	1.54e-05	3.23e-05	3.00e-05	1.54e-05	7.65e-06
Temperature	6.41e-09	3.77e-08	1.86e-08	3.43e-08	3.12e-08	1.88e-08	1.31e-08	1.34e-08
Wavelength	2.49e-04	9.90e-05	3.62e-05	2.03e-05	1.48e-04	5.35e-05	3.80e-05	1.53e-05
Stray Light	2.15e-06	9.57e-06	9.20e-06	7.71e-06	1.61e-05	1.50e-05	1.03e-05	7.65e-06
Inter-reflection	2.15e-06	9.57e-06	9.20e-06	7.71e-06	1.61e-05	1.50e-05	1.03e-05	7.65e-06
Obliquity	4.66e-06	1.25e-05	1.22e-05	1.10e-05	1.62e-05	1.57e-05	1.30e-05	1.10e-05
Polarization	9.30e-07	4.14e-06	3.99e-06	3.34e-06	6.99e-06	6.50e-06	4.45e-06	3.31e-06
Bandwidth	6.41e-05	2.62e-05	2.05e-06	9.66e-07	6.67e-06	1.76e-07	1.15e-06	1.77e-07
Detector electronics	1.07e-06	4.78e-06	4.60e-06	3.85e-06	8.07e-06	7.51e-06	5.14e-06	3.83e-06
Filter instability	3.32e-05	2.61e-05	9.72e-06	7.39e-06	0.0	2.64e-05	2.31e-05	1.17e-05
System reproducibility	0.0	0.0	1.50e-05	0.0	0.0	0.0	0.0	0.0
Total Type B Uncertainty	2.59e-04	1.07e-04	4.46e-05	2.71e-05	1.51e-04	6.60e-05	4.90e-05	2.52e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.36e-05	1.08e-05	9.39e-06	6.00e-06	9.83e-06	8.39e-06	4.19e-06	4.56e-06
Total Uncertainty	2.59e-04	1.08e-04	4.56e-05	2.78e-05	1.52e-04	6.66e-05	4.92e-05	2.56e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf

Uncertainty budget for NPL, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	8.60e-06	2.87e-05	1.84e-05	1.54e-05	3.23e-05	3.00e-05	1.54e-05	7.65e-06	1.00
Temperature	6.41e-09	3.77e-08	1.86e-08	3.43e-08	3.12e-08	1.88e-08	1.31e-08	1.34e-08	1.00
Wavelength	2.49e-04	9.90e-05	3.62e-05	2.03e-05	1.48e-04	5.35e-05	3.80e-05	1.53e-05	1.00
Stray Light	2.15e-06	9.57e-06	9.20e-06	7.71e-06	1.61e-05	1.50e-05	1.03e-05	7.65e-06	1.00
Inter-reflection	2.15e-06	9.57e-06	9.20e-06	7.71e-06	1.61e-05	1.50e-05	1.03e-05	7.65e-06	1.00
Obliquity	4.66e-06	1.25e-05	1.22e-05	1.10e-05	1.62e-05	1.57e-05	1.30e-05	1.10e-05	1.00
Polarization	9.30e-07	4.14e-06	3.99e-06	3.34e-06	6.99e-06	6.50e-06	4.45e-06	3.31e-06	1.00
Bandwidth	6.41e-05	2.62e-05	2.05e-06	9.66e-07	6.67e-06	1.76e-07	1.15e-06	1.77e-07	1.00
Detector electronics	1.07e-06	4.78e-06	4.60e-06	3.85e-06	8.07e-06	7.51e-06	5.14e-06	3.83e-06	1.00
Filter instability	3.32e-05	2.61e-05	9.72e-06	7.39e-06	0.0	2.64e-05	2.31e-05	1.17e-05	0.0
System reproducibility	0.0	0.0	1.50e-05	0.0	0.0	0.0	0.0	0.0	0.0
Total Type B Uncertainty	2.59e-04	1.07e-04	4.46e-05	2.71e-05	1.51e-04	6.60e-05	4.90e-05	2.52e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.43e-05	1.98e-05	7.48e-06	9.29e-06	1.14e-05	5.85e-06	7.52e-06	5.78e-06	
Total Uncertainty	2.60e-04	1.13e-04	4.88e-05	3.25e-05	1.55e-04	7.27e-05	5.19e-05	2.69e-05	
Degrees of Freedom	inf	inf	inf	427.0	inf	inf	inf	inf	

Uncertainty budget for NPL, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.57e-07	1.61e-06	1.74e-06	1.72e-06	5.43e-06	6.59e-06	3.46e-06	1.71e-06
Temperature	2.49e-10	4.81e-09	3.55e-09	7.28e-09	1.07e-08	7.54e-09	4.90e-09	4.83e-09
Wavelength	8.22e-06	1.72e-05	2.44e-06	4.91e-06	3.51e-05	7.81e-06	9.12e-06	2.78e-06
Stray Light	3.91e-08	5.37e-07	8.69e-07	8.60e-07	2.71e-06	3.30e-06	2.31e-06	1.71e-06
Inter-reflection	3.91e-08	5.37e-07	8.69e-07	8.60e-07	2.71e-06	3.30e-06	2.31e-06	1.71e-06
Obliquity	1.75e-07	1.59e-06	2.34e-06	2.32e-06	5.52e-06	6.34e-06	4.91e-06	3.94e-06
Polarization	1.69e-08	2.32e-07	3.76e-07	3.72e-07	1.17e-06	1.43e-06	1.00e-06	7.42e-07
Bandwidth	1.96e-06	2.51e-06	2.31e-07	1.64e-07	8.99e-07	1.67e-07	7.20e-08	8.90e-08
Detector electronics	3.91e-08	5.37e-07	8.69e-07	8.60e-07	2.71e-06	3.30e-06	2.31e-06	1.71e-06
Filter instability	0.0	3.63e-06	2.09e-06	1.95e-06	5.60e-06	8.26e-06	4.91e-06	2.41e-06
Total Type B Uncertainty	8.45e-06	1.79e-05	4.62e-06	6.21e-06	3.67e-05	1.57e-05	1.27e-05	6.43e-06
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.70e-05	4.61e-06	1.76e-06	1.51e-06	2.66e-06	3.84e-06	2.69e-06	1.15e-06
Total Uncertainty	1.90e-05	1.85e-05	4.94e-06	6.40e-06	3.68e-05	1.62e-05	1.30e-05	6.53e-06
Degrees of Freedom	11.0	inf	321.0	inf	inf	inf	inf	inf

Uncertainty budget for NPL, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.57e-07	1.61e-06	1.74e-06	1.72e-06	5.43e-06	6.59e-06	3.46e-06	1.71e-06	1.00
Temperature	2.49e-10	4.81e-09	3.55e-09	7.28e-09	1.07e-08	7.54e-09	4.90e-09	4.83e-09	1.00
Wavelength	8.22e-06	1.72e-05	2.44e-06	4.91e-06	3.51e-05	7.81e-06	9.12e-06	2.78e-06	1.00
Stray Light	3.91e-08	5.37e-07	8.69e-07	8.60e-07	2.71e-06	3.30e-06	2.31e-06	1.71e-06	1.00
Inter-reflection	3.91e-08	5.37e-07	8.69e-07	8.60e-07	2.71e-06	3.30e-06	2.31e-06	1.71e-06	1.00
Obliquity	1.75e-07	1.59e-06	2.34e-06	2.32e-06	5.52e-06	6.34e-06	4.91e-06	3.94e-06	1.00
Polarization	1.69e-08	2.32e-07	3.76e-07	3.72e-07	1.17e-06	1.43e-06	1.00e-06	7.42e-07	1.00
Bandwidth	1.96e-06	2.51e-06	2.31e-07	1.64e-07	8.99e-07	1.67e-07	7.20e-08	8.90e-08	1.00
Detector electronics	3.91e-08	5.37e-07	8.69e-07	8.60e-07	2.71e-06	3.30e-06	2.31e-06	1.71e-06	1.00
Filter instability	0.0	3.63e-06	2.09e-06	1.95e-06	5.60e-06	8.26e-06	4.91e-06	2.41e-06	0.0
Total Type B Uncertainty	8.45e-06	1.79e-05	4.62e-06	6.21e-06	3.67e-05	1.57e-05	1.27e-05	6.43e-06	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.38e-05	6.78e-06	8.82e-07	6.69e-07	1.54e-06	2.50e-06	2.35e-06	3.25e-06	
Total Uncertainty	1.60e-05	1.92e-05	4.70e-06	6.25e-06	3.67e-05	1.59e-05	1.29e-05	7.20e-06	
Degrees of Freedom	12.0	463.0	inf	inf	inf	inf	inf	64.0	

Uncertainty budget for NPL, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	-	1.05e-07	1.93e-07	2.06e-07	1.03e-06	1.97e-06	1.29e-06	7.29e-07
Temperature	-	4.86e-10	5.85e-10	1.28e-09	3.00e-09	3.14e-09	2.33e-09	3.16e-09
Wavelength	-	2.05e-06	3.48e-07	8.64e-07	9.46e-06	9.42e-07	2.18e-06	2.46e-07
Stray Light	-	3.50e-08	9.64e-08	1.03e-07	5.16e-07	9.87e-07	8.61e-07	7.29e-07
Inter-reflection	-	3.50e-08	9.64e-08	1.03e-07	5.16e-07	9.87e-07	8.61e-07	7.29e-07
Obliquity	-	1.59e-07	3.81e-07	4.04e-07	1.54e-06	2.58e-06	2.32e-06	2.03e-06
Polarization	-	1.51e-08	4.17e-08	4.46e-08	2.23e-07	4.27e-07	3.73e-07	3.15e-07
Polarization	-	0.0	0.0	0.0	2.00e-07	4.00e-07	4.00e-07	3.00e-07
Bandwidth	-	6.50e-08	3.28e-08	2.93e-08	1.02e-07	7.25e-08	2.07e-08	5.27e-08
Detector electronics	-	6.99e-08	1.93e-07	2.06e-07	1.03e-06	1.97e-06	1.72e-06	1.46e-06
Filter instability	-	3.38e-07	0.0	7.14e-08	0.0	0.0	0.0	6.87e-07
System reproducibility	-	0.0	0.0	0.0	0.0	0.0	0.0	2.00e-06
Total Type B Uncertainty	-	2.09e-06	6.02e-07	1.01e-06	9.72e-06	4.18e-06	4.05e-06	3.53e-06
Degrees of Freedom	-	inf	inf	inf	inf	inf	inf	inf
Type A	-	5.99e-06	2.28e-06	9.54e-07	1.85e-06	4.75e-06	2.13e-06	7.08e-07
Total Uncertainty	-	6.34e-06	2.36e-06	1.39e-06	9.90e-06	6.33e-06	4.58e-06	3.60e-06
Degrees of Freedom	-	9.0	8.0	31.0	inf	22.0	149.0	inf

Uncertainty budget for NPL, Filter E, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	-	1.05e-07	1.93e-07	2.06e-07	1.03e-06	1.97e-06	1.29e-06	7.29e-07	1.00
Temperature	-	4.86e-10	5.85e-10	1.28e-09	3.00e-09	3.14e-09	2.33e-09	3.16e-09	1.00
Wavelength	-	2.05e-06	3.48e-07	8.64e-07	9.46e-06	9.42e-07	2.18e-06	2.46e-07	1.00
Stray Light	-	3.50e-08	9.64e-08	1.03e-07	5.16e-07	9.87e-07	8.61e-07	7.29e-07	1.00
Inter-reflection	-	3.50e-08	9.64e-08	1.03e-07	5.16e-07	9.87e-07	8.61e-07	7.29e-07	1.00
Obliquity	-	1.59e-07	3.81e-07	4.04e-07	1.54e-06	2.58e-06	2.32e-06	2.03e-06	1.00
Polarization	-	1.51e-08	4.17e-08	4.46e-08	2.23e-07	4.27e-07	3.73e-07	3.15e-07	1.00
Polarization	-	0.0	0.0	15.0	0.0	0.0	0.0	0.0	1.00
Bandwidth	-	6.50e-08	3.28e-08	2.93e-08	1.02e-07	7.25e-08	2.07e-08	5.27e-08	1.00
Detector electronics	-	6.99e-08	1.93e-07	2.06e-07	1.03e-06	1.97e-06	1.72e-06	1.46e-06	1.00
Filter instability	-	3.38e-07	0.0	7.14e-08	0.0	0.0	0.0	6.87e-07	0.0
System reproducibility	-	0.0	0.0	0.0	0.0	0.0	0.0	2.00e-06	0.0
Total Type B Uncertainty	-	2.09e-06	6.02e-07	1.01e-06	9.72e-06	4.18e-06	4.05e-06	3.53e-06	
Degrees of Freedom	-	inf	inf	inf	inf	inf	inf	inf	
Type A	-	6.01e-06	7.68e-07	5.27e-07	1.84e-06	2.38e-06	1.54e-06	7.58e-07	
Total Uncertainty	-	6.35e-06	9.75e-07	1.14e-06	9.90e-06	4.81e-06	4.33e-06	3.61e-06	
Degrees of Freedom	-	9.0	18.0	153.0	inf	129.0	440.0	inf	

Uncertainty budget for NRC, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.20e-05	1.18e-05	1.15e-05	1.13e-05	1.11e-05	1.10e-05	1.10e-05	1.09e-05
Wavelength	1.49e-06	5.80e-07	2.48e-06	4.93e-07	5.47e-07	6.97e-07	2.59e-07	9.00e-07
Stray Light	7.97e-06	7.83e-06	7.64e-06	7.51e-06	7.41e-06	7.35e-06	7.32e-06	7.29e-06
Inter-reflection	9.20e-05	8.23e-05	6.72e-05	7.36e-05	7.47e-05	7.50e-05	5.42e-05	7.25e-05
Polarization	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05
Bandwidth	8.17e-08	7.23e-08	8.08e-10	1.81e-09	4.14e-09	1.37e-08	9.28e-09	1.47e-08
Total Type B Uncertainty	9.37e-05	8.41e-05	6.93e-05	7.55e-05	7.66e-05	7.68e-05	5.66e-05	7.44e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.18e-04	1.08e-04	1.08e-04	8.49e-05	7.55e-05	8.62e-05	9.58e-05	1.15e-04
Total Uncertainty	1.51e-04	1.37e-04	1.28e-04	1.14e-04	1.08e-04	1.15e-04	1.11e-04	1.37e-04
Degrees of Freedom	18.0	18.0	14.0	22.0	29.0	23.0	13.0	14.0

Uncertainty budget for NRC, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.21e-05	1.19e-05	1.16e-05	1.14e-05	1.12e-05	1.11e-05	1.11e-05	1.10e-05	1.00
Wavelength	1.49e-06	5.80e-07	2.48e-06	4.93e-07	5.47e-07	6.97e-07	2.59e-07	9.00e-07	1.00
Stray Light	8.05e-06	7.91e-06	7.71e-06	7.57e-06	7.48e-06	7.40e-06	7.37e-06	7.34e-06	1.00
Inter-reflection	9.20e-05	8.23e-05	6.72e-05	7.36e-05	7.47e-05	7.50e-05	5.42e-05	7.25e-05	1.00
Polarization	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00
Bandwidth	8.17e-08	7.23e-08	8.08e-10	1.81e-09	4.14e-09	1.37e-08	9.28e-09	1.47e-08	1.00
Total Type B Uncertainty	9.37e-05	8.42e-05	6.94e-05	7.56e-05	7.66e-05	7.68e-05	5.66e-05	7.44e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	7.11e-05	6.23e-05	4.36e-05	4.22e-05	4.30e-05	4.54e-05	3.96e-05	4.22e-05	
Total Uncertainty	1.18e-04	1.05e-04	8.19e-05	8.66e-05	8.78e-05	8.92e-05	6.91e-05	8.55e-05	
Degrees of Freedom	52.0	56.0	87.0	124.0	122.0	104.0	65.0	118.0	

Uncertainty budget for NRC, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	3.63e-05	3.57e-05	3.52e-05	3.57e-05	3.46e-05	3.66e-05	3.75e-05	3.72e-05
Temperature	3.33e-06	2.11e-06	2.13e-06	2.65e-06	1.60e-06	1.69e-06	2.89e-06	3.19e-06
Wavelength	1.17e-04	6.87e-06	1.42e-05	3.82e-06	1.13e-05	4.78e-05	3.86e-05	2.24e-05
Stray Light	2.42e-05	2.38e-05	2.35e-05	2.38e-05	2.31e-05	2.44e-05	2.50e-05	2.48e-05
Inter-reflection	8.69e-06	3.27e-05	3.51e-05	4.35e-05	4.31e-05	7.71e-06	6.87e-06	1.88e-05
Polarization	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05
Bandwidth	1.16e-04	1.99e-05	5.93e-07	1.04e-07	1.59e-06	1.04e-07	1.14e-07	2.19e-06
Total Type B Uncertainty	1.71e-04	5.88e-05	5.77e-05	6.20e-05	6.19e-05	6.62e-05	6.07e-05	5.45e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.34e-04	1.15e-04	8.30e-05	5.67e-05	6.94e-05	6.04e-05	6.24e-05	5.75e-05
Total Uncertainty	2.17e-04	1.29e-04	1.01e-04	8.41e-05	9.29e-05	8.96e-05	8.70e-05	7.92e-05
Degrees of Freedom	48.0	11.0	15.0	34.0	23.0	34.0	27.0	25.0

Uncertainty budget for NRC, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	3.63e-05	3.57e-05	3.52e-05	3.57e-05	3.46e-05	3.66e-05	3.75e-05	3.72e-05	1.00
Temperature	3.33e-06	2.11e-06	2.13e-06	2.65e-06	1.60e-06	1.69e-06	2.89e-06	3.19e-06	0.50
Wavelength	1.17e-04	6.87e-06	1.42e-05	3.82e-06	1.13e-05	4.78e-05	3.86e-05	2.24e-05	1.00
Stray Light	2.42e-05	2.38e-05	2.35e-05	2.38e-05	2.31e-05	2.44e-05	2.50e-05	2.48e-05	1.00
Inter-reflection	8.69e-06	3.27e-05	3.51e-05	4.35e-05	4.31e-05	7.71e-06	6.87e-06	1.88e-05	1.00
Polarization	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00e-05	1.00
Bandwidth	1.16e-04	1.99e-05	5.93e-07	1.04e-07	1.59e-06	1.04e-07	1.14e-07	2.19e-06	1.00
Filter Instability and Long-te	0.0	0.0	0.0	0.0	2.60e-05	3.90e-05	5.20e-05	3.80e-05	0.0
Total Type B Uncertainty	1.71e-04	5.88e-05	5.77e-05	6.20e-05	6.71e-05	7.68e-05	7.99e-05	6.64e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	9.75e-05	4.35e-05	2.53e-05	2.31e-05	2.63e-05	2.58e-05	3.50e-05	2.50e-05	
Total Uncertainty	1.97e-04	7.31e-05	6.30e-05	6.62e-05	7.21e-05	8.10e-05	8.72e-05	7.10e-05	
Degrees of Freedom	116.0	56.0	270.0	475.0	395.0	680.0	270.0	455.0	

Uncertainty budget for NRC, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	3.18e-06	1.31e-05	1.26e-05	1.08e-05	2.04e-05	1.93e-05	1.39e-05	1.07e-05
Temperature	7.74e-07	1.71e-06	1.85e-06	1.90e-06	1.84e-06	1.74e-06	2.18e-06	1.85e-06
Wavelength	2.30e-05	1.06e-05	4.08e-05	1.08e-05	7.57e-05	3.07e-05	2.27e-05	9.41e-06
Stray Light	2.12e-06	8.71e-06	8.43e-06	7.18e-06	1.36e-05	1.28e-05	9.30e-06	7.13e-06
Inter-reflection	7.98e-05	7.48e-05	4.07e-05	1.24e-05	2.89e-05	1.71e-05	5.39e-06	3.58e-06
Polarization	2.00e-06	2.00e-06	2.00e-06	2.00e-06	3.00e-06	3.00e-06	3.00e-06	4.00e-06
Bandwidth	2.63e-05	1.10e-05	7.42e-07	3.49e-07	2.64e-06	4.83e-08	4.28e-08	1.46e-07
Total Type B Uncertainty	8.32e-05	7.72e-05	5.96e-05	2.11e-05	8.48e-05	4.22e-05	2.89e-05	1.69e-05
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	4.84e-05	3.75e-05	1.35e-05	8.37e-06	1.64e-05	2.03e-05	1.08e-05	6.76e-06
Total Uncertainty	9.62e-05	8.58e-05	6.11e-05	2.27e-05	8.63e-05	4.69e-05	3.09e-05	1.82e-05
Degrees of Freedom	110.0	192.0	2.90e+03	378.0	5.42e+03	200.0	463.0	368.0

Uncertainty budget for NRC, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	3.18e-06	1.31e-05	1.26e-05	1.08e-05	2.04e-05	1.93e-05	1.39e-05	1.07e-05	1.00
Temperature	7.74e-07	1.71e-06	1.85e-06	1.90e-06	1.84e-06	1.74e-06	2.18e-06	1.85e-06	0.50
Wavelength	2.30e-05	1.06e-05	4.08e-05	1.08e-05	7.57e-05	3.07e-05	2.27e-05	9.41e-06	1.00
Stray Light	2.12e-06	8.71e-06	8.43e-06	7.18e-06	1.36e-05	1.28e-05	9.29e-06	7.13e-06	1.00
Inter-reflection	7.98e-05	7.48e-05	4.07e-05	1.24e-05	2.89e-05	1.71e-05	5.39e-06	3.58e-06	1.00
Polarization	2.00e-06	2.00e-06	2.00e-06	2.00e-06	3.00e-06	3.00e-06	3.00e-06	4.00e-06	1.00
Bandwidth	2.63e-05	1.10e-05	7.42e-07	3.49e-07	2.64e-06	4.83e-08	4.28e-08	1.46e-07	1.00
Total Type B Uncertainty	8.32e-05	7.72e-05	5.96e-05	2.11e-05	8.48e-05	4.22e-05	2.89e-05	1.69e-05	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	4.41e-05	2.74e-05	1.05e-05	7.85e-06	2.39e-05	1.43e-05	1.05e-05	4.35e-06	
Total Uncertainty	9.41e-05	8.19e-05	6.05e-05	2.25e-05	8.81e-05	4.46e-05	3.08e-05	1.75e-05	
Degrees of Freedom	146.0	560.0	7.72e+03	473.0	1.29e+03	657.0	523.0	1.81e+03	

Uncertainty budget for NRC, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.13e-09	7.68e-07	1.25e-06	1.23e-06	3.85e-06	4.66e-06	3.29e-06	2.45e-06
Temperature	2.94e-08	3.55e-07	5.05e-07	5.46e-07	9.98e-07	1.05e-06	1.25e-06	1.02e-06
Wavelength	7.24e-07	1.57e-06	2.70e-06	2.44e-06	1.74e-05	4.39e-06	4.14e-06	5.61e-07
Stray Light	7.50e-10	5.12e-07	8.30e-07	8.21e-07	2.57e-06	3.11e-06	2.19e-06	1.63e-06
Inter-reflection	7.51e-07	8.24e-06	5.36e-06	4.15e-06	5.89e-06	4.59e-07	3.07e-06	2.26e-06
Bandwidth	8.57e-07	8.85e-07	7.27e-08	5.18e-08	3.64e-07	3.43e-08	2.87e-08	4.61e-08
Total Type B Uncertainty	1.35e-06	8.49e-06	6.20e-06	5.07e-06	1.90e-05	7.21e-06	6.61e-06	3.89e-06
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	8.56e-07	1.93e-06	1.41e-06	1.26e-06	3.68e-06	6.03e-06	3.87e-06	2.44e-06
Total Uncertainty	1.60e-06	8.71e-06	6.36e-06	5.22e-06	1.93e-05	9.39e-06	7.66e-06	4.59e-06
Degrees of Freedom	85.0	2.88e+03	2.89e+03	2.05e+03	5.36e+03	41.0	107.0	88.0

Uncertainty budget for NRC, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.13e-09	7.04e-08	1.06e-07	8.64e-08	5.38e-07	5.73e-07	2.73e-07	1.51e-07	1.00
Temperature	2.94e-08	3.55e-07	5.05e-07	5.46e-07	9.98e-07	1.05e-06	1.25e-06	1.02e-06	0.50
Wavelength	7.24e-07	1.57e-06	2.70e-06	2.44e-06	1.74e-05	4.39e-06	4.14e-06	5.61e-07	1.00
Stray Light	7.52e-10	4.69e-08	7.07e-08	5.76e-08	3.59e-07	3.82e-07	1.82e-07	1.01e-07	1.00
Inter-reflection	7.51e-07	8.24e-06	5.36e-06	4.15e-06	5.89e-06	4.59e-07	3.07e-06	2.26e-06	1.00
Bandwidth	8.57e-07	8.85e-07	7.27e-08	5.18e-08	3.64e-07	3.43e-08	2.87e-08	4.61e-08	1.00
Filter Instability and Long-te	0.0	0.0	0.0	0.0	0.0	9.50e-06	5.60e-06	3.90e-06	0.0
Total Type B Uncertainty	1.35e-06	8.44e-06	6.02e-06	4.85e-06	1.84e-05	1.06e-05	7.72e-06	4.66e-06	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	1.56e-06	2.57e-06	1.42e-06	9.89e-07	4.77e-06	4.25e-06	2.48e-06	1.66e-06	
Total Uncertainty	2.06e-06	8.83e-06	6.19e-06	4.95e-06	1.90e-05	1.14e-05	8.11e-06	4.95e-06	
Degrees of Freedom	21.0	972.0	2.49e+03	4.38e+03	1.77e+03	362.0	801.0	553.0	

Uncertainty budget for NRC, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	6.32e-13	2.42e-10	1.04e-09	1.09e-09	1.61e-08	3.25e-08	1.25e-06	1.06e-06
Temperature	1.07e-09	3.98e-08	1.58e-07	1.69e-07	4.19e-07	5.19e-07	5.89e-07	4.96e-07
Wavelength	2.73e-08	1.72e-07	3.46e-07	4.50e-07	4.69e-06	5.52e-07	9.18e-07	5.92e-07
Stray Light	4.21e-13	1.61e-10	6.92e-10	7.25e-10	1.07e-08	2.16e-08	8.35e-07	7.06e-07
Inter-reflection	0.0	0.0	0.0	0.0	1.83e-06	4.47e-06	2.64e-06	1.55e-06
Bandwidth	1.00e-08	4.45e-08	8.48e-09	1.05e-08	4.31e-08	1.95e-08	9.10e-09	7.17e-08
Total Type B Uncertainty	2.91e-08	1.82e-07	3.81e-07	4.81e-07	5.05e-06	4.53e-06	3.23e-06	2.15e-06
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf
Type A	1.23e-07	3.76e-07	4.80e-07	3.07e-07	1.29e-06	2.26e-06	4.71e-06	2.86e-06
Total Uncertainty	1.27e-07	4.17e-07	6.13e-07	5.71e-07	5.21e-06	5.07e-06	5.71e-06	3.57e-06
Degrees of Freedom	8.0	11.0	19.0	83.0	1.87e+03	177.0	15.0	17.0

Uncertainty budget for NRC, Filter E, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	6.38e-13	2.41e-10	1.04e-09	1.09e-09	1.60e-08	3.24e-08	1.77e-08	1.01e-08	1.00
Temperature	1.07e-09	3.98e-08	1.58e-07	1.69e-07	4.19e-07	5.19e-07	5.89e-07	4.96e-07	0.50
Wavelength	2.73e-08	1.72e-07	3.46e-07	4.50e-07	4.69e-06	5.52e-07	9.18e-07	5.92e-07	1.00
Stray Light	4.25e-13	1.60e-10	6.92e-10	7.24e-10	1.07e-08	2.16e-08	8.35e-07	7.06e-07	1.00
Inter-reflection	0.0	0.0	0.0	0.0	1.83e-06	4.47e-06	2.64e-06	1.55e-06	1.00
Bandwidth	1.00e-08	4.45e-08	8.48e-09	1.05e-08	4.31e-08	1.95e-08	9.09e-09	7.17e-08	1.00
Total Type B Uncertainty	2.91e-08	1.82e-07	3.81e-07	4.81e-07	5.05e-06	4.53e-06	2.86e-06	1.73e-06	
Degrees of Freedom	inf	inf	inf	inf	inf	inf	inf	inf	
Type A	8.99e-08	8.66e-07	4.49e-07	2.79e-07	1.16e-06	1.95e-06	4.60e-06	2.05e-06	
Total Uncertainty	9.45e-08	8.85e-07	5.89e-07	5.56e-07	5.18e-06	4.94e-06	5.42e-06	2.68e-06	
Degrees of Freedom	9.0	8.0	21.0	111.0	2.75e+03	285.0	13.0	20.0	

Uncertainty budget for PTB, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.00e-07	2.73e-06	3.75e-06	4.30e-06	4.33e-06	4.00e-06	4.28e-06	4.67e-05
Wavelength	1.78e-06	8.66e-07	4.16e-07	1.04e-07	3.33e-06	1.04e-07	5.02e-08	1.04e-07
Stray Light	1.41e-07	1.28e-07	8.98e-08	6.96e-08	5.77e-08	4.99e-08	4.48e-08	4.11e-08
Beam Size & Position	2.05e-07	1.82e-07	1.43e-07	1.19e-07	1.03e-07	8.90e-08	8.43e-08	7.64e-08
Inter-reflection	2.07e-04	2.08e-04	2.08e-04	2.09e-04	2.09e-04	2.09e-04	2.10e-04	2.10e-04
Obliquity	1.65e-06	1.62e-06	1.58e-06	1.55e-06	1.53e-06	1.52e-06	1.51e-06	1.50e-06
Polarization	3.33e-05	3.33e-05	3.34e-05	3.35e-05	3.35e-05	3.35e-05	3.36e-05	3.36e-05
Bandwidth	7.90e-05	7.91e-05	7.94e-05	7.95e-05	7.96e-05	7.91e-05	7.92e-05	7.97e-05
Prismatic effect	1.87e-04	1.87e-04	1.87e-04	1.87e-04	1.87e-04	1.87e-04	1.87e-04	1.87e-04
Resolution	8.96e-05	8.91e-05	5.68e-05	8.13e-05	8.85e-05	8.09e-05	8.66e-05	7.03e-05
Total Type B Uncertainty	3.05e-04	3.06e-04	2.98e-04	3.05e-04	3.07e-04	3.04e-04	3.07e-04	3.06e-04
Degrees of Freedom	47.0	47.0	42.0	42.0	42.0	45.0	44.0	45.0
Type A	1.93e-04	1.08e-04	1.95e-05	2.63e-05	6.23e-05	1.04e-04	8.70e-05	6.36e-05
Total Uncertainty	3.65e-04	3.28e-04	3.02e-04	3.09e-04	3.16e-04	3.25e-04	3.22e-04	3.16e-04
Degrees of Freedom	83.0	61.0	44.0	44.0	47.0	58.0	53.0	51.0

Uncertainty budget for PTB, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.00e-07	2.73e-06	3.75e-06	4.30e-06	4.33e-06	4.00e-06	4.28e-06	4.67e-05	1.00
Wavelength	1.78e-06	8.66e-07	4.16e-07	1.04e-07	3.33e-06	1.04e-07	5.02e-08	1.04e-07	0.0
Stray Light	1.41e-07	1.28e-07	8.98e-08	6.96e-08	5.77e-08	4.99e-08	4.48e-08	4.11e-08	1.00
Beam Size & Position	2.05e-07	1.82e-07	1.43e-07	1.19e-07	1.03e-07	8.90e-08	8.43e-08	7.64e-08	0.0
Inter-reflection	2.07e-04	2.08e-04	2.08e-04	2.09e-04	2.09e-04	2.09e-04	2.10e-04	2.10e-04	1.00
Obliquity	1.65e-06	1.62e-06	1.58e-06	1.55e-06	1.53e-06	1.52e-06	1.51e-06	1.50e-06	1.00
Polarization	3.33e-05	3.33e-05	3.34e-05	3.35e-05	3.35e-05	3.35e-05	3.36e-05	3.36e-05	1.00
Bandwidth	7.90e-05	7.91e-05	7.94e-05	7.95e-05	7.96e-05	7.91e-05	7.92e-05	7.97e-05	0.0
Prismatic effect	1.87e-04	1.87e-04	1.87e-04	1.87e-04	1.87e-04	1.87e-04	1.87e-04	1.87e-04	1.00
Resolution	7.25e-05	7.46e-05	5.97e-05	5.82e-05	9.15e-05	8.42e-05	8.75e-05	7.17e-05	0.0
Total Type B Uncertainty	3.01e-04	3.02e-04	2.99e-04	2.99e-04	3.07e-04	3.05e-04	3.07e-04	3.06e-04	
Degrees of Freedom	45.0	44.0	43.0	42.0	42.0	46.0	41.0	46.0	
Type A	1.09e-04	6.58e-05	3.00e-05	2.52e-05	2.81e-05	1.14e-04	6.15e-05	7.06e-05	
Total Uncertainty	3.23e-04	3.12e-04	3.03e-04	3.03e-04	3.12e-04	3.29e-04	3.16e-04	3.18e-04	
Degrees of Freedom	59.0	50.0	46.0	44.0	44.0	61.0	46.0	53.0	

Uncertainty budget for PTB, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.00e-07	1.01e-05	1.39e-05	1.66e-05	1.62e-05	1.65e-05	1.95e-05	1.69e-04
Temperature	8.21e-06	1.56e-05	6.58e-06	1.60e-05	8.63e-06	4.76e-06	3.48e-06	5.91e-06
Wavelength	2.31e-04	1.05e-05	1.80e-06	8.80e-07	4.36e-06	1.10e-05	1.13e-05	5.64e-06
Stray Light	6.22e-07	4.75e-07	3.34e-07	2.69e-07	2.15e-07	2.08e-07	2.04e-07	1.95e-07
Beam Size & Position	2.86e-06	2.18e-06	2.11e-06	2.17e-06	2.03e-06	2.33e-06	2.63e-06	2.77e-06
Inter-reflection	6.69e-05	1.15e-04	1.18e-04	1.15e-04	1.23e-04	1.07e-04	8.80e-05	7.67e-05
Obliquity	7.26e-06	6.01e-06	5.87e-06	5.99e-06	5.71e-06	6.31e-06	6.88e-06	7.12e-06
Polarization	1.49e-05	2.22e-05	2.26e-05	2.22e-05	2.32e-05	2.10e-05	1.82e-05	1.65e-05
Bandwidth	1.60e-05	5.70e-05	5.42e-05	5.33e-05	5.57e-05	4.58e-05	4.32e-05	3.90e-05
Resolution	4.25e-05	5.63e-05	4.92e-05	4.78e-05	5.28e-05	6.15e-05	5.21e-05	3.49e-05
Total Type B Uncertainty	2.45e-04	1.44e-04	1.42e-04	1.39e-04	1.48e-04	1.35e-04	1.15e-04	1.94e-04
Degrees of Freedom	56.0	26.0	23.0	24.0	22.0	22.0	32.0	99.0
Type A	1.90e-04	1.07e-04	5.00e-05	5.00e-05	6.91e-05	1.35e-04	7.00e-05	5.24e-05
Total Uncertainty	3.14e-04	1.82e-04	1.54e-04	1.52e-04	1.68e-04	1.95e-04	1.37e-04	2.03e-04
Degrees of Freedom	106.0	58.0	32.0	34.0	35.0	66.0	59.0	117.0

Uncertainty budget for PTB, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.00e-07	1.01e-05	1.39e-05	1.66e-05	1.62e-05	1.65e-05	1.95e-05	1.69e-04	1.00
Temperature	8.21e-06	1.56e-05	6.58e-06	1.60e-05	8.63e-06	4.76e-06	3.48e-06	5.91e-06	0.50
Wavelength	2.31e-04	1.05e-05	1.80e-06	8.80e-07	4.36e-06	1.10e-05	1.13e-05	5.64e-06	0.0
Stray Light	6.22e-07	4.75e-07	3.34e-07	2.69e-07	2.15e-07	2.08e-07	2.04e-07	1.95e-07	1.00
Beam Size & Position	2.86e-06	2.18e-06	2.11e-06	2.17e-06	2.03e-06	2.33e-06	2.63e-06	2.77e-06	0.0
Inter-reflection	6.69e-05	1.15e-04	1.18e-04	1.15e-04	1.23e-04	1.07e-04	8.80e-05	7.67e-05	1.00
Obliquity	7.26e-06	6.01e-06	5.87e-06	5.99e-06	5.71e-06	6.31e-06	6.88e-06	7.12e-06	1.00
Polarization	1.49e-05	2.22e-05	2.26e-05	2.22e-05	2.32e-05	2.10e-05	1.82e-05	1.65e-05	1.00
Bandwidth	1.60e-05	5.70e-05	5.42e-05	5.33e-05	5.57e-05	4.58e-05	4.32e-05	3.90e-05	0.0
Resolution	4.49e-05	5.45e-05	5.18e-05	5.02e-05	5.45e-05	4.34e-05	4.55e-05	3.55e-05	0.0
Total Type B Uncertainty	2.46e-04	1.43e-04	1.43e-04	1.40e-04	1.49e-04	1.28e-04	1.12e-04	1.94e-04	
Degrees of Freedom	55.0	26.0	24.0	25.0	22.0	23.0	28.0	99.0	
Type A	3.84e-04	1.50e-04	1.28e-04	1.00e-04	5.00e-05	1.57e-04	5.00e-05	1.14e-04	
Total Uncertainty	4.61e-04	2.10e-04	1.96e-04	1.75e-04	1.61e-04	2.06e-04	1.25e-04	2.27e-04	
Degrees of Freedom	88.0	74.0	65.0	54.0	30.0	75.0	42.0	150.0	

Uncertainty budget for PTB, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	7.14e-06	2.68e-05	3.46e-06	3.78e-06	6.93e-06	6.50e-06	4.85e-06	4.34e-05
Temperature	1.75e-06	1.28e-05	5.60e-06	1.19e-05	1.01e-05	4.78e-06	2.59e-06	3.44e-06
Wavelength	4.25e-05	1.85e-05	7.42e-06	3.75e-06	2.56e-05	8.79e-06	6.50e-06	2.60e-06
Stray Light	1.39e-07	3.50e-07	2.47e-07	1.75e-07	2.19e-07	1.85e-07	1.37e-07	1.06e-07
Beam Size & Position	2.65e-07	7.10e-07	6.96e-07	6.27e-07	9.22e-07	8.94e-07	7.41e-07	6.25e-07
Inter-reflection	2.47e-06	1.19e-05	1.14e-05	9.43e-06	2.14e-05	1.98e-05	1.29e-05	9.37e-06
Obliquity	1.62e-06	4.43e-06	4.34e-06	3.90e-06	5.83e-06	5.64e-06	4.63e-06	3.89e-06
Polarization	7.75e-07	3.46e-06	3.33e-06	2.79e-06	5.84e-06	5.44e-06	3.73e-06	2.77e-06
Bandwidth	2.40e-06	1.00e-05	7.90e-06	6.60e-06	1.40e-05	1.30e-05	9.00e-06	6.70e-06
Resolution	2.10e-06	9.06e-06	5.66e-06	5.47e-06	1.65e-05	1.33e-05	1.05e-05	6.50e-06
Total Type B Uncertainty	4.34e-05	3.98e-05	1.88e-05	1.89e-05	4.24e-05	3.07e-05	2.16e-05	4.58e-05
Degrees of Freedom	51.0	111.0	67.0	39.0	88.0	51.0	72.0	91.0
Type A	1.88e-05	2.65e-05	6.61e-06	4.29e-06	2.24e-05	2.12e-05	1.11e-05	1.21e-05
Total Uncertainty	4.77e-05	4.81e-05	2.01e-05	1.95e-05	4.85e-05	3.77e-05	2.45e-05	4.79e-05
Degrees of Freedom	72.0	164.0	86.0	45.0	131.0	94.0	109.0	107.0

Uncertainty budget for PTB, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	7.14e-06	2.68e-05	3.46e-06	3.78e-06	6.93e-06	6.50e-06	4.85e-06	4.34e-05	1.00
Temperature	1.75e-06	1.28e-05	5.60e-06	1.19e-05	1.01e-05	4.78e-06	2.59e-06	3.44e-06	0.50
Wavelength	4.25e-05	1.85e-05	7.42e-06	3.75e-06	2.56e-05	8.79e-06	6.50e-06	2.60e-06	0.0
Stray Light	1.39e-07	3.50e-07	2.47e-07	1.75e-07	2.19e-07	1.85e-07	1.37e-07	1.06e-07	1.00
Beam Size & Position	2.65e-07	7.10e-07	6.96e-07	6.27e-07	9.22e-07	8.94e-07	7.41e-07	6.25e-07	0.0
Inter-reflection	2.47e-06	1.19e-05	1.14e-05	9.43e-06	2.14e-05	1.98e-05	1.29e-05	9.37e-06	1.00
Obliquity	1.62e-06	4.43e-06	4.34e-06	3.90e-06	5.83e-06	5.64e-06	4.63e-06	3.89e-06	1.00
Polarization	7.75e-07	3.46e-06	3.33e-06	2.79e-06	5.84e-06	5.44e-06	3.73e-06	2.77e-06	1.00
Bandwidth	2.40e-06	1.00e-05	7.90e-06	6.60e-06	1.40e-05	1.30e-05	9.00e-06	6.70e-06	0.0
Resolution	2.04e-06	9.54e-06	5.96e-06	5.40e-06	1.27e-05	1.36e-05	9.21e-06	6.62e-06	0.0
Total Type B Uncertainty	4.34e-05	3.99e-05	1.89e-05	1.88e-05	4.11e-05	3.08e-05	2.10e-05	4.58e-05	
Degrees of Freedom	51.0	112.0	68.0	37.0	89.0	52.0	53.0	91.0	
Type A	1.20e-05	1.33e-05	4.78e-06	2.52e-06	6.23e-06	2.80e-05	2.54e-06	5.71e-06	
Total Uncertainty	4.54e-05	4.23e-05	1.97e-05	1.92e-05	4.20e-05	4.21e-05	2.14e-05	4.67e-05	
Degrees of Freedom	61.0	137.0	80.0	40.0	97.0	105.0	57.0	98.0	

Uncertainty budget for PTB, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.38e-07	2.13e-06	4.33e-06	4.34e-06	9.13e-06	1.42e-05	9.38e-06	1.31e-05
Temperature	6.11e-08	1.55e-06	9.77e-07	2.37e-06	3.26e-06	1.75e-06	1.17e-06	1.38e-06
Wavelength	1.15e-06	2.67e-06	4.51e-07	8.10e-07	5.82e-06	8.40e-07	1.19e-06	4.42e-07
Stray Light	4.50e-09	4.12e-08	4.41e-08	3.44e-08	7.03e-08	7.09e-08	4.92e-08	3.62e-08
Beam Size & Position	8.98e-09	8.65e-08	1.28e-07	1.27e-07	3.05e-07	3.51e-07	2.71e-07	2.16e-07
Inter-reflection	3.84e-08	5.70e-07	9.34e-07	9.23e-07	3.02e-06	3.70e-06	2.55e-06	1.87e-06
Obliquity	5.34e-08	5.22e-07	7.75e-07	7.68e-07	1.87e-06	2.15e-06	1.66e-06	1.32e-06
Polarization	1.23e-08	1.81e-07	2.96e-07	2.92e-07	9.37e-07	1.14e-06	7.97e-07	5.88e-07
Bandwidth	1.10e-07	5.18e-07	6.98e-07	9.27e-06	2.34e-06	2.61e-06	1.31e-06	1.51e-06
Resolution	2.07e-08	3.30e-07	6.02e-07	6.14e-07	1.66e-06	2.75e-06	1.53e-06	1.31e-06
Total Type B Uncertainty	1.17e-06	3.88e-06	4.73e-06	1.06e-05	1.22e-05	1.55e-05	1.02e-05	1.35e-05
Degrees of Freedom	52.0	67.0	105.0	46.0	114.0	105.0	102.0	87.0
Type A	3.43e-07	4.87e-06	6.62e-06	5.75e-06	2.00e-05	2.24e-05	1.44e-05	5.36e-06
Total Uncertainty	1.23e-06	6.29e-06	8.20e-06	1.22e-05	2.36e-05	2.75e-05	1.78e-05	1.47e-05
Degrees of Freedom	63.0	105.0	103.0	74.0	90.0	100.0	102.0	116.0

Uncertainty budget for PTB, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.38e-07	2.13e-06	4.33e-06	4.34e-06	9.13e-06	1.42e-05	9.38e-06	1.31e-05	1.00
Temperature	6.11e-08	1.55e-06	9.77e-07	2.37e-06	3.26e-06	1.75e-06	1.17e-06	1.38e-06	0.50
Wavelength	1.15e-06	2.67e-06	4.51e-07	8.10e-07	5.82e-06	8.40e-07	1.19e-06	4.42e-07	0.0
Stray Light	4.50e-09	4.12e-08	4.41e-08	3.44e-08	7.03e-08	7.09e-08	4.92e-08	3.62e-08	1.00
Beam Size & Position	8.98e-09	8.65e-08	1.28e-07	1.27e-07	3.05e-07	3.51e-07	2.71e-07	2.16e-07	0.0
Inter-reflection	3.84e-08	5.70e-07	9.34e-07	9.23e-07	3.02e-06	3.70e-06	2.55e-06	1.87e-06	1.00
Obliquity	5.34e-08	5.22e-07	7.75e-07	7.68e-07	1.87e-06	2.15e-06	1.66e-06	1.32e-06	1.00
Polarization	1.23e-08	1.81e-07	2.96e-07	2.92e-07	9.37e-07	1.14e-06	7.97e-07	5.88e-07	1.00
Bandwidth	1.10e-07	5.18e-07	6.98e-07	9.27e-06	2.34e-06	2.61e-06	1.31e-06	1.51e-06	0.0
Resolution	2.06e-08	3.31e-07	6.05e-07	6.14e-07	1.71e-06	1.89e-06	2.06e-06	1.41e-06	0.0
Total Type B Uncertainty	1.17e-06	3.88e-06	4.73e-06	1.06e-05	1.22e-05	1.53e-05	1.03e-05	1.36e-05	
Degrees of Freedom	52.0	67.0	105.0	46.0	115.0	101.0	104.0	88.0	
Type A	2.06e-07	1.19e-06	8.90e-07	7.83e-07	1.96e-06	2.35e-06	1.21e-05	2.22e-06	
Total Uncertainty	1.20e-06	4.10e-06	4.83e-06	1.08e-05	1.25e-05	1.56e-05	1.60e-05	1.39e-05	
Degrees of Freedom	57.0	82.0	115.0	48.0	123.0	108.0	121.0	96.0	

Uncertainty budget for PTB, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	6.25e-09	1.41e-07	5.28e-07	5.62e-07	2.14e-06	4.03e-06	4.56e-06	5.65e-06
Temperature	3.38e-09	1.62e-07	1.68e-07	4.36e-07	9.56e-07	7.49e-07	5.78e-07	1.01e-06
Wavelength	5.45e-08	3.29e-07	5.66e-08	1.67e-07	1.60e-06	4.95e-07	3.85e-07	6.36e-09
Stray Light	1.60e-10	4.18e-09	7.37e-09	6.16e-09	2.00e-08	2.94e-08	2.38e-08	1.92e-08
Beam Size & Position	6.20e-10	1.15e-08	2.76e-08	2.92e-08	1.11e-07	1.86e-07	1.67e-07	1.47e-07
Inter-reflection	1.46e-09	3.88e-08	1.08e-07	1.15e-07	5.82e-07	1.12e-06	9.76e-07	8.24e-07
Obliquity	2.73e-09	5.37e-08	1.30e-07	1.38e-07	5.32e-07	8.94e-07	8.03e-07	7.02e-07
Polarization	4.70e-10	1.24e-08	3.44e-08	3.68e-08	1.85e-07	3.55e-07	3.09e-07	2.61e-07
Bandwidth	5.19e-09	6.66e-08	8.31e-08	1.02e-07	7.70e-07	5.07e-07	7.81e-07	6.05e-07
Resolution	8.10e-10	2.83e-08	6.43e-08	6.80e-08	3.30e-07	6.51e-07	6.06e-07	6.25e-07
Total Type B Uncertainty	5.53e-08	4.05e-07	5.93e-07	7.64e-07	3.07e-06	4.47e-06	4.90e-06	5.91e-06
Degrees of Freedom	52.0	67.0	65.0	19.0	101.0	108.0	99.0	91.0
Type A	2.15e-08	3.60e-07	7.39e-07	4.67e-07	3.16e-06	7.24e-06	7.81e-06	7.32e-06
Total Uncertainty	5.99e-08	5.48e-07	9.57e-07	9.17e-07	4.44e-06	8.58e-06	9.31e-06	9.50e-06
Degrees of Freedom	70.0	121.0	105.0	37.0	133.0	91.0	92.0	113.0

Uncertainty budget for PTB, Filter E, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	6.25e-09	1.41e-07	5.28e-07	5.62e-07	2.14e-06	4.03e-06	4.56e-06	5.65e-06	1.00
Temperature	3.38e-09	1.62e-07	1.68e-07	4.36e-07	9.56e-07	7.49e-07	5.78e-07	1.01e-06	0.50
Wavelength	5.45e-08	3.29e-07	5.66e-08	1.67e-07	1.60e-06	4.95e-07	3.85e-07	6.36e-09	0.0
Stray Light	1.60e-10	4.18e-09	7.37e-09	6.16e-09	2.00e-08	2.94e-08	2.38e-08	1.92e-08	1.00
Beam Size & Position	6.20e-10	1.15e-08	2.76e-08	2.92e-08	1.11e-07	1.86e-07	1.67e-07	1.47e-07	0.0
Inter-reflection	1.46e-09	3.88e-08	1.08e-07	1.15e-07	5.82e-07	1.12e-06	9.76e-07	8.24e-07	1.00
Obliquity	2.73e-09	5.37e-08	1.30e-07	1.38e-07	5.32e-07	8.94e-07	8.03e-07	7.02e-07	1.00
Polarization	4.70e-10	1.24e-08	3.44e-08	3.68e-08	1.85e-07	3.55e-07	3.09e-07	2.61e-07	1.00
Bandwidth	5.19e-09	6.66e-08	8.31e-08	1.02e-07	7.70e-07	5.07e-07	7.81e-07	6.05e-07	0.0
Resolution	8.04e-10	2.84e-08	6.47e-08	6.80e-08	3.40e-07	6.59e-07	8.07e-07	6.49e-07	0.0
Total Type B Uncertainty	5.53e-08	4.05e-07	5.93e-07	7.64e-07	3.07e-06	4.47e-06	4.93e-06	5.92e-06	
Degrees of Freedom	52.0	67.0	65.0	19.0	101.0	108.0	101.0	92.0	
Type A	1.99e-08	5.19e-07	4.93e-07	6.18e-07	6.23e-07	2.19e-06	3.52e-06	1.96e-06	
Total Uncertainty	5.94e-08	6.65e-07	7.79e-07	1.00e-06	3.15e-06	5.00e-06	6.09e-06	6.29e-06	
Degrees of Freedom	68.0	104.0	118.0	49.0	111.0	151.0	154.0	115.0	

Uncertainty budget for VNIOFI, Filter A, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	7.22e-06	8.78e-06	1.39e-05	1.40e-05	8.74e-06	1.20e-05	1.02e-05	1.31e-05
Wavelength	8.63e-06	3.00e-06	1.46e-06	1.19e-06	8.85e-07	7.38e-07	8.92e-07	0.0
Beam Size & Position	1.27e-04	9.47e-04	1.25e-03	9.30e-04	5.25e-04	1.15e-04	2.31e-05	5.77e-06
Polarization	4.83e-04	8.81e-04	4.49e-04	3.82e-04	5.55e-04	7.81e-04	7.15e-04	1.15e-03
Total Type B Uncertainty	4.99e-04	1.29e-03	1.33e-03	1.01e-03	7.64e-04	7.90e-04	7.15e-04	1.15e-03
Degrees of Freedom	7.87e+03	1.15e+05	1.76e+05	9.22e+04	6.65e+04	1.11e+05	4.09e+05	6.98e+05
Type A	9.34e-05	1.22e-04	1.13e-04	1.00e-04	8.29e-05	7.53e-05	4.91e-05	6.88e-05
Total Uncertainty	5.08e-04	1.30e-03	1.33e-03	1.01e-03	7.69e-04	7.93e-04	7.17e-04	1.15e-03
Degrees of Freedom	7.87e+03	1.15e+05	1.76e+05	9.22e+04	6.65e+04	1.11e+05	4.09e+05	6.98e+05

Uncertainty budget for VNIOFI, Filter A, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	7.22e-06	8.78e-06	1.39e-05	1.40e-05	8.74e-06	1.20e-05	1.02e-05	1.31e-05	0.99
Wavelength	8.63e-06	3.00e-06	1.46e-06	1.19e-06	8.85e-07	7.38e-07	8.92e-07	0.0	0.80
Beam Size & Position	1.27e-04	9.47e-04	1.25e-03	9.30e-04	5.25e-04	1.15e-04	2.31e-05	5.77e-06	0.90
Polarization	4.83e-04	8.81e-04	4.49e-04	3.82e-04	5.55e-04	7.81e-04	7.15e-04	1.15e-03	0.99
Total Type B Uncertainty	4.99e-04	1.29e-03	1.33e-03	1.01e-03	7.64e-04	7.90e-04	7.15e-04	1.15e-03	
Degrees of Freedom	8.96e+05	9.80e+06	4.43e+07	2.46e+07	4.16e+07	1.48e+08	6.35e+08	2.20e+08	
Type A	2.82e-05	4.01e-05	2.82e-05	2.47e-05	1.65e-05	1.24e-05	7.81e-06	1.63e-05	
Total Uncertainty	5.00e-04	1.29e-03	1.33e-03	1.01e-03	7.64e-04	7.90e-04	7.16e-04	1.15e-03	
Degrees of Freedom	8.96e+05	9.80e+06	4.43e+07	2.46e+07	4.16e+07	1.48e+08	6.35e+08	2.20e+08	

Uncertainty budget for VNIOFI, Filter B, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	1.28e-05	1.17e-05	9.97e-06	9.11e-06	1.64e-06	-	1.02e-05	-
Wavelength	1.15e-03	1.65e-05	1.37e-05	3.17e-05	6.99e-05	-	5.56e-05	-
Beam Size & Position	3.75e-04	5.31e-04	4.33e-04	3.81e-04	3.29e-04	-	2.77e-04	-
Polarization	2.78e-04	3.98e-04	2.80e-04	1.69e-04	2.81e-04	-	3.54e-04	-
Total Type B Uncertainty	1.24e-03	6.64e-04	5.16e-04	4.18e-04	4.39e-04	-	4.53e-04	-
Degrees of Freedom	3.13e+06	1.34e+06	9.08e+05	1.01e+07	1.37e+06	-	1.32e+06	-
Type A	5.10e-05	3.39e-05	2.90e-05	1.29e-05	2.22e-05	-	2.32e-05	-
Total Uncertainty	1.24e-03	6.65e-04	5.17e-04	4.18e-04	4.39e-04	-	4.53e-04	-
Degrees of Freedom	3.13e+06	1.34e+06	9.08e+05	1.01e+07	1.37e+06	-	1.32e+06	-

Uncertainty budget for VNIOFI, Filter B, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	1.28e-05	1.17e-05	9.97e-06	9.11e-06	1.64e-06	1.75e-05	1.02e-05	5.68e-06	0.99
Wavelength	1.15e-03	1.65e-05	1.37e-05	3.17e-05	6.99e-05	8.66e-05	5.56e-05	5.56e-05	0.80
Beam Size & Position	3.75e-04	5.31e-04	4.33e-04	3.81e-04	3.29e-04	3.23e-04	2.77e-04	3.41e-04	0.90
Polarization	2.78e-04	3.98e-04	2.80e-04	1.69e-04	2.81e-04	3.70e-04	3.54e-04	4.28e-04	0.99
Total Type B Uncertainty	1.24e-03	6.64e-04	5.16e-04	4.18e-04	4.39e-04	4.99e-04	4.53e-04	5.50e-04	
Degrees of Freedom	3.60e+05	7.53e+06	5.51e+06	5.02e+05	2.69e+06	1.18e+07	1.81e+08	7.90e+08	
Type A	8.77e-05	2.20e-05	1.85e-05	2.73e-05	1.88e-05	1.47e-05	6.76e-06	5.69e-06	
Total Uncertainty	1.24e-03	6.65e-04	5.16e-04	4.19e-04	4.39e-04	4.99e-04	4.53e-04	5.50e-04	
Degrees of Freedom	3.60e+05	7.53e+06	5.51e+06	5.02e+05	2.69e+06	1.18e+07	1.81e+08	7.90e+08	

Uncertainty budget for VNIOFI, Filter C, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	2.29e-06	2.86e-06	6.59e-06	7.47e-06	4.43e-06	8.31e-06	7.14e-06	7.25e-06
Wavelength	4.21e-04	3.82e-06	1.70e-05	9.68e-05	1.32e-05	5.42e-05	3.01e-05	8.71e-05
Beam Size & Position	8.66e-05	9.82e-05	5.20e-05	4.62e-05	1.56e-04	9.82e-05	8.66e-05	6.93e-05
Polarization	1.06e-03	3.35e-05	1.50e-06	1.24e-05	2.81e-06	4.62e-05	3.16e-05	3.82e-05
Total Type B Uncertainty	1.14e-03	1.04e-04	5.51e-05	1.08e-04	1.57e-04	1.22e-04	9.72e-05	1.18e-04
Degrees of Freedom	3.55e+06	3.99e+03	4.93e+03	2.11e+04	9.65e+04	2.67e+06	1.25e+08	2.97e+09
Type A	4.55e-05	2.32e-05	1.16e-05	1.57e-05	1.55e-05	5.21e-06	1.59e-06	8.75e-07
Total Uncertainty	1.14e-03	1.06e-04	5.63e-05	1.09e-04	1.57e-04	1.22e-04	9.72e-05	1.18e-04
Degrees of Freedom	3.55e+06	3.99e+03	4.93e+03	2.11e+04	9.65e+04	2.67e+06	1.25e+08	2.97e+09

Uncertainty budget for VNIOFI, Filter C, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	2.29e-06	2.86e-06	6.59e-06	7.47e-06	4.43e-06	8.31e-06	7.14e-06	7.25e-06	0.99
Wavelength	4.21e-04	3.82e-06	1.70e-05	9.68e-05	1.32e-05	5.42e-05	3.01e-05	8.71e-05	0.80
Beam Size & Position	8.66e-05	9.82e-05	5.20e-05	4.62e-05	1.56e-04	9.82e-05	8.66e-05	6.93e-05	0.90
Polarization	1.06e-03	3.35e-05	1.50e-06	1.24e-05	2.81e-06	4.62e-05	3.16e-05	3.82e-05	0.99
Total Type B Uncertainty	1.14e-03	1.04e-04	5.51e-05	1.08e-04	1.57e-04	1.22e-04	9.72e-05	1.18e-04	
Degrees of Freedom	6.58e+07	1.45e+04	2.15e+05	3.82e+04	2.57e+05	5.80e+06	8.83e+06	9.78e+06	
Type A	2.19e-05	1.66e-05	4.44e-06	1.35e-05	1.21e-05	4.29e-06	3.09e-06	3.65e-06	
Total Uncertainty	1.14e-03	1.05e-04	5.53e-05	1.09e-04	1.57e-04	1.22e-04	9.73e-05	1.18e-04	
Degrees of Freedom	6.58e+07	1.45e+04	2.15e+05	3.82e+04	2.57e+05	5.80e+06	8.83e+06	9.78e+06	

Uncertainty budget for VNIOFI, Filter D, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	-	5.09e-06	7.29e-06	7.24e-06	5.91e-06	3.18e-06	2.63e-06	6.04e-06
Wavelength	-	3.74e-06	9.44e-08	2.10e-05	6.51e-06	1.12e-05	6.75e-06	1.92e-05
Beam Size & Position	-	0.0	5.77e-06	5.77e-06	2.89e-05	1.15e-05	5.77e-06	5.77e-06
Polarization	-	1.26e-04	4.62e-07	1.42e-06	9.24e-06	1.57e-05	9.31e-06	8.28e-06
Total Type B Uncertainty	-	1.26e-04	9.31e-06	2.30e-05	3.16e-05	2.27e-05	1.31e-05	2.25e-05
Degrees of Freedom	-	1.76e+05	6.01e+03	9.52e+03	593.3	1.86e+05	1.06e+05	1.78e+04
Type A	-	1.07e-05	1.87e-06	4.10e-06	1.18e-05	1.90e-06	1.27e-06	3.42e-06
Total Uncertainty	-	1.26e-04	9.50e-06	2.34e-05	3.37e-05	2.28e-05	1.32e-05	2.28e-05
Degrees of Freedom	-	1.76e+05	6.01e+03	9.52e+03	593.3	1.86e+05	1.06e+05	1.78e+04

Uncertainty budget for VNIOFI, Filter D, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	-	5.09e-06	7.29e-06	7.24e-06	5.91e-06	3.18e-06	2.63e-06	6.04e-06	0.99
Wavelength	-	3.74e-06	9.44e-08	2.10e-05	6.51e-06	1.12e-05	6.75e-06	1.92e-05	0.80
Beam Size & Position	-	0.0	5.77e-06	5.77e-06	2.89e-05	1.15e-05	5.77e-06	5.77e-06	0.90
Polarization	-	1.26e-04	4.62e-07	1.42e-06	9.24e-06	1.57e-05	9.31e-06	8.28e-06	0.99
Total Type B Uncertainty	-	1.26e-04	9.31e-06	2.30e-05	3.16e-05	2.27e-05	1.31e-05	2.25e-05	
Degrees of Freedom	-	1.07e+07	2.47e+04	8.36e+04	1.10e+05	8.71e+05	2.84e+05	8.68e+05	
Type A	-	3.81e-06	1.30e-06	2.36e-06	3.01e-06	1.29e-06	9.89e-07	1.28e-06	
Total Uncertainty	-	1.26e-04	9.40e-06	2.31e-05	3.17e-05	2.27e-05	1.32e-05	2.26e-05	
Degrees of Freedom	-	1.07e+07	2.47e+04	8.36e+04	1.10e+05	8.71e+05	2.84e+05	8.68e+05	

Uncertainty budget for VNIOFI, Filter E, Step 2

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Nonlinearity	-	-	7.75e-06	4.52e-06	2.15e-06	5.12e-06	7.28e-06	6.18e-06
Wavelength	-	-	7.92e-08	4.76e-06	5.40e-06	1.46e-06	1.53e-06	8.35e-06
Beam Size & Position	-	-	0.0	5.77e-06	5.77e-06	1.73e-05	1.73e-05	1.15e-05
Polarization	-	-	2.66e-06	5.81e-06	8.47e-07	1.96e-06	2.42e-06	1.92e-06
Total Type B Uncertainty	-	-	8.19e-06	1.05e-05	8.24e-06	1.82e-05	1.90e-05	1.57e-05
Degrees of Freedom	-	-	3.18e+04	1.94e+04	332.5	7.19e+04	4.21e+04	2.69e+03
Type A	-	-	1.07e-06	1.56e-06	3.66e-06	1.94e-06	2.32e-06	3.88e-06
Total Uncertainty	-	-	8.26e-06	1.06e-05	9.01e-06	1.83e-05	1.91e-05	1.61e-05
Degrees of Freedom	-	-	3.18e+04	1.94e+04	332.5	7.19e+04	4.21e+04	2.69e+03

Uncertainty budget for VNIOFI, Filter E, Step 4

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Nonlinearity	-	-	7.75e-06	4.52e-06	2.15e-06	5.12e-06	7.28e-06	6.18e-06	0.99
Wavelength	-	-	7.92e-08	4.76e-06	5.40e-06	1.46e-06	1.53e-06	8.35e-06	0.80
Beam Size & Position	-	-	0.0	5.77e-06	5.77e-06	1.73e-05	1.73e-05	1.15e-05	0.90
Polarization	-	-	2.66e-06	5.81e-06	8.47e-07	1.96e-06	2.42e-06	1.92e-06	0.99
Total Type B Uncertainty	-	-	8.19e-06	1.05e-05	8.24e-06	1.82e-05	1.90e-05	1.57e-05	
Degrees of Freedom	-	-	6.47e+04	8.61e+04	2.65e+03	1.25e+06	2.09e+06	3.07e+05	
Type A	-	-	8.95e-07	1.07e-06	2.05e-06	9.45e-07	8.67e-07	1.15e-06	
Total Uncertainty	-	-	8.24e-06	1.06e-05	8.49e-06	1.83e-05	1.90e-05	1.57e-05	
Degrees of Freedom	-	-	6.47e+04	8.61e+04	2.65e+03	1.25e+06	2.09e+06	3.07e+05	

Values shown are averages for all filter sets. Some components depend on the value of the transmittance. The 'Non Parallel Filter Surfaces' component depends on the specific filter characteristics and is only correlated with other measurements of the same filter. Only the budgets for Steps 1 and 3 are shown as there is no additional information in the budget for Step 5.

Uncertainty budget for MSL, Filter A, Step 1

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Wavelength	3.30e-06	1.20e-06	4.20e-07	2.60e-06	3.90e-07	3.70e-07	1.40e-06	4.50e-07
Beam Size & Position	8.37e-08	6.77e-08	4.45e-08	3.08e-08	2.09e-08	1.39e-08	9.98e-09	7.58e-09
Obliquity	1.60e-06	1.50e-06	1.40e-06	1.40e-06	1.50e-06	1.50e-06	1.50e-06	1.60e-06
Filter Drift & Instability	1.10e-04	1.10e-04	9.90e-05	7.90e-05	6.80e-05	5.60e-05	6.10e-05	6.20e-05
Non Parallel Filter Surfaces	7.47e-05	6.25e-05	2.64e-05	1.99e-05	2.16e-05	2.50e-05	2.23e-05	2.64e-05
Total Type B Uncertainty	1.37e-04	1.31e-04	1.03e-04	8.16e-05	7.22e-05	6.20e-05	6.57e-05	6.79e-05
Degrees of Freedom	34.7	32.2	23.5	23.2	24.9	29.0	26.3	28.4
Type A	3.20e-05	2.70e-05	2.50e-05	2.90e-05	4.20e-05	4.50e-05	3.40e-05	2.80e-05
Total Uncertainty	1.50e-04	1.40e-04	1.10e-04	8.70e-05	8.40e-05	7.80e-05	7.50e-05	7.50e-05
Degrees of Freedom	44.2	38.7	26.8	29.6	41.1	54.0	40.8	39.7

Uncertainty budget for MSL, Filter A, Step 3

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Wavelength	3.30e-06	1.20e-06	4.20e-07	2.60e-06	3.90e-07	3.70e-07	1.40e-06	4.50e-07	1.00
Beam Size & Position	8.48e-08	6.88e-08	4.55e-08	3.15e-08	2.20e-08	1.46e-08	1.07e-08	8.49e-09	1.00
Obliquity	1.27e-06	1.30e-06	1.40e-06	1.40e-06	1.50e-06	1.50e-06	1.50e-06	1.60e-06	0.50
Filter Drift & Instability	1.10e-04	1.10e-04	9.75e-05	7.74e-05	6.42e-05	5.05e-05	5.83e-05	5.88e-05	0.0
Non Parallel Filter Surfaces	7.47e-05	6.25e-05	2.64e-05	1.99e-05	2.16e-05	2.50e-05	2.23e-05	2.64e-05	0.80
Total Type B Uncertainty	1.36e-04	1.29e-04	1.01e-04	8.04e-05	6.88e-05	5.75e-05	6.33e-05	6.56e-05	
Degrees of Freedom	34.8	32.4	23.5	23.4	25.6	31.0	27.0	29.3	
Type A	3.20e-05	2.70e-05	2.50e-05	2.90e-05	4.20e-05	4.50e-05	3.40e-05	2.80e-05	
Total Uncertainty	1.50e-04	1.40e-04	1.10e-04	8.70e-05	8.40e-05	7.80e-05	7.50e-05	7.50e-05	
Degrees of Freedom	44.1	38.7	26.8	29.6	41.1	54.0	40.7	39.7	

Values shown are averages for all filter sets. Some components depend on the value of the transmittance. The 'Non Parallel Filter Surfaces' component depends on the specific filter characteristics and is only correlated with other measurements of the same filter. Only the budgets for Steps 1 and 3 are shown as there is no additional information in the budget for Step 5.

Uncertainty budget for MSL, Filter B, Step 1

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Temperature	9.97e-06	2.08e-05	8.45e-06	2.10e-05	1.10e-05	5.96e-06	3.90e-06	7.60e-06
Wavelength	4.60e-04	2.60e-05	3.91e-06	1.45e-06	7.97e-06	2.80e-05	2.30e-05	1.10e-05
Beam Size & Position	6.32e-06	4.80e-06	4.70e-06	4.80e-06	4.50e-06	5.20e-06	5.80e-06	6.13e-06
Obliquity	6.30e-06	5.30e-06	5.10e-06	5.20e-06	5.00e-06	5.60e-06	6.07e-06	6.30e-06
Filter Drift & Instability	2.32e-04	1.30e-04	1.30e-04	7.20e-05	6.52e-05	1.00e-04	8.22e-05	4.82e-05
Non Parallel Filter Surfaces	1.72e-05	2.11e-05	8.95e-06	6.65e-06	7.56e-06	7.85e-06	6.10e-06	6.55e-06
Total Type B Uncertainty	5.14e-04	1.36e-04	1.30e-04	7.55e-05	6.77e-05	1.10e-04	8.60e-05	5.13e-05
Degrees of Freedom	28.3	24.1	20.5	24.4	22.9	23.7	23.9	25.6
Type A	1.30e-04	3.80e-05	2.70e-05	2.00e-05	1.90e-05	1.90e-05	1.80e-05	2.10e-05
Total Uncertainty	5.30e-04	1.40e-04	1.40e-04	7.80e-05	7.00e-05	1.10e-04	8.80e-05	5.50e-05
Degrees of Freedom	32.1	27.3	22.1	27.6	26.3	25.1	26.0	33.4

Uncertainty budget for MSL, Filter B, Step 3

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Temperature	9.47e-06	2.00e-05	8.08e-06	2.10e-05	1.10e-05	5.35e-06	2.55e-06	6.85e-06	1.00
Wavelength	4.60e-04	2.60e-05	3.90e-06	1.45e-06	7.97e-06	2.80e-05	2.30e-05	1.10e-05	1.00
Beam Size & Position	6.33e-06	4.80e-06	4.70e-06	4.80e-06	4.50e-06	5.20e-06	5.80e-06	6.13e-06	1.00
Obliquity	6.20e-06	5.10e-06	5.10e-06	5.20e-06	5.00e-06	5.60e-06	6.07e-06	6.30e-06	0.50
Filter Drift & Instability	2.26e-04	1.30e-04	1.30e-04	7.15e-05	6.47e-05	1.00e-04	8.15e-05	4.75e-05	0.0
Non Parallel Filter Surfaces	1.72e-05	2.11e-05	8.95e-06	6.65e-06	7.56e-06	7.85e-06	6.10e-06	6.55e-06	0.80
Total Type B Uncertainty	5.12e-04	1.35e-04	1.30e-04	7.49e-05	6.70e-05	1.10e-04	8.55e-05	5.05e-05	
Degrees of Freedom	28.0	24.1	20.5	24.5	22.9	23.7	23.9	25.5	
Type A	1.30e-04	3.80e-05	2.70e-05	2.00e-05	1.90e-05	1.90e-05	1.80e-05	2.10e-05	
Total Uncertainty	5.30e-04	1.40e-04	1.40e-04	7.80e-05	7.00e-05	1.10e-04	8.80e-05	5.50e-05	
Degrees of Freedom	32.1	27.3	22.1	27.5	26.2	25.0	25.9	33.2	

Values shown are averages for all filter sets. Some components depend on the value of the transmittance. The 'Non Parallel Filter Surfaces' component depends on the specific filter characteristics and is only correlated with other measurements of the same filter. Only the budgets for Steps 1 and 3 are shown as there is no additional information in the budget for Step 5.

Uncertainty budget for MSL, Filter C, Step 1

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Temperature	2.42e-06	1.72e-05	7.24e-06	1.60e-05	1.30e-05	6.01e-06	2.91e-06	4.46e-06
Wavelength	8.54e-05	3.64e-05	1.30e-05	7.33e-06	5.11e-05	1.87e-05	1.35e-05	5.36e-06
Beam Size & Position	7.92e-07	2.10e-06	2.10e-06	1.90e-06	2.75e-06	2.70e-06	2.20e-06	1.89e-06
Obliquity	1.40e-06	3.85e-06	3.76e-06	3.40e-06	5.08e-06	4.90e-06	4.01e-06	3.40e-06
Filter Drift & Instability	3.38e-05	2.62e-05	9.77e-06	7.51e-06	0.0	2.62e-05	2.30e-05	1.20e-05
Non Parallel Filter Surfaces	6.54e-07	2.42e-06	9.95e-07	6.21e-07	1.39e-06	1.51e-06	9.25e-07	8.15e-07
Total Type B Uncertainty	9.17e-05	4.84e-05	1.80e-05	1.94e-05	5.31e-05	3.32e-05	2.70e-05	1.40e-05
Degrees of Freedom	24.9	46.5	56.5	92.3	22.2	40.3	34.7	40.2
Type A	2.60e-05	1.30e-05	4.20e-06	5.60e-06	1.60e-05	5.40e-06	4.70e-06	4.00e-06
Total Uncertainty	9.50e-05	5.00e-05	1.90e-05	2.00e-05	5.50e-05	3.40e-05	2.80e-05	1.50e-05
Degrees of Freedom	28.7	52.7	62.0	105.4	26.1	42.2	36.7	46.0

Uncertainty budget for MSL, Filter C, Step 3

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Temperature	2.30e-06	1.70e-05	6.91e-06	1.60e-05	1.30e-05	5.35e-06	1.85e-06	4.03e-06	1.00
Wavelength	8.53e-05	3.64e-05	1.30e-05	7.33e-06	5.11e-05	1.87e-05	1.35e-05	5.36e-06	1.00
Beam Size & Position	7.92e-07	2.10e-06	2.10e-06	1.90e-06	2.75e-06	2.70e-06	2.20e-06	1.89e-06	1.00
Obliquity	1.40e-06	3.80e-06	3.76e-06	3.40e-06	5.08e-06	4.90e-06	4.01e-06	3.40e-06	0.50
Filter Drift & Instability	3.24e-05	2.57e-05	9.55e-06	7.21e-06	0.0	2.59e-05	2.30e-05	1.18e-05	0.0
Non Parallel Filter Surfaces	6.54e-07	2.42e-06	9.95e-07	6.21e-07	1.39e-06	1.51e-06	9.25e-07	8.15e-07	0.80
Total Type B Uncertainty	9.12e-05	4.80e-05	1.80e-05	1.90e-05	5.31e-05	3.29e-05	2.70e-05	1.40e-05	
Degrees of Freedom	24.5	46.0	54.7	89.7	22.1	40.0	34.4	39.2	
Type A	2.60e-05	1.30e-05	4.20e-06	5.60e-06	1.60e-05	6.60e-06	4.70e-06	4.00e-06	
Total Uncertainty	9.50e-05	5.00e-05	1.90e-05	2.00e-05	5.50e-05	3.40e-05	2.80e-05	1.50e-05	
Degrees of Freedom	28.7	52.5	60.6	103.6	26.0	43.0	36.2	44.8	

Values shown are averages for all filter sets. Some components depend on the value of the transmittance. The 'Non Parallel Filter Surfaces' component depends on the specific filter characteristics and is only correlated with other measurements of the same filter. Only the budgets for Steps 1 and 3 are shown as there is no additional information in the budget for Step 5.

Uncertainty budget for MSL, Filter D, Step 1

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Temperature	8.73e-08	2.16e-06	1.35e-06	3.30e-06	4.45e-06	2.38e-06	1.08e-06	1.57e-06
Wavelength	2.47e-06	5.70e-06	8.78e-07	1.72e-06	1.20e-05	2.70e-06	3.18e-06	9.85e-07
Beam Size & Position	2.84e-08	2.64e-07	3.91e-07	3.84e-07	9.25e-07	1.09e-06	8.22e-07	6.58e-07
Obliquity	5.01e-08	4.72e-07	6.95e-07	6.85e-07	1.65e-06	1.92e-06	1.49e-06	1.19e-06
Filter Drift & Instability	2.97e-07	3.68e-06	2.10e-06	1.99e-06	5.67e-06	8.30e-06	4.97e-06	2.41e-06
Non Parallel Filter Surfaces	1.44e-08	1.71e-07	1.16e-07	8.65e-08	2.99e-07	4.20e-07	2.60e-07	2.29e-07
Total Type B Uncertainty	2.54e-06	7.15e-06	2.79e-06	4.25e-06	1.41e-05	9.29e-06	6.22e-06	3.37e-06
Degrees of Freedom	19.9	40.0	54.2	95.7	34.7	31.2	41.4	59.2
Type A	1.20e-06	1.90e-06	5.40e-07	1.00e-06	3.40e-06	1.70e-06	2.50e-06	1.20e-06
Total Uncertainty	2.70e-06	7.40e-06	2.80e-06	4.40e-06	1.40e-05	9.40e-06	6.70e-06	3.60e-06
Degrees of Freedom	28.7	45.8	57.8	106.0	38.9	33.2	53.7	72.4

Uncertainty budget for MSL, Filter D, Step 3

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Temperature	8.21e-08	2.13e-06	1.30e-06	3.24e-06	4.35e-06	2.15e-06	6.85e-07	1.42e-06	1.00
Wavelength	2.47e-06	5.70e-06	8.79e-07	1.72e-06	1.20e-05	2.70e-06	3.18e-06	9.85e-07	1.00
Beam Size & Position	2.84e-08	2.64e-07	3.91e-07	3.84e-07	9.25e-07	1.09e-06	8.22e-07	6.58e-07	1.00
Obliquity	5.00e-08	4.69e-07	6.95e-07	6.85e-07	1.65e-06	1.92e-06	1.49e-06	1.19e-06	0.50
Filter Drift & Instability	2.58e-07	3.64e-06	2.10e-06	1.96e-06	5.57e-06	8.28e-06	4.91e-06	2.38e-06	0.0
Non Parallel Filter Surfaces	1.44e-08	1.71e-07	1.16e-07	8.65e-08	2.98e-07	4.21e-07	2.60e-07	2.29e-07	0.80
Total Type B Uncertainty	2.53e-06	7.13e-06	2.73e-06	4.22e-06	1.40e-05	9.20e-06	6.14e-06	3.27e-06	
Degrees of Freedom	19.8	39.6	52.5	93.9	34.1	30.4	40.5	56.4	
Type A	1.20e-06	1.90e-06	5.50e-07	1.00e-06	3.40e-06	1.70e-06	2.50e-06	1.20e-06	
Total Uncertainty	2.70e-06	7.40e-06	2.80e-06	4.40e-06	1.40e-05	9.40e-06	6.70e-06	3.50e-06	
Degrees of Freedom	28.7	45.7	56.0	104.4	38.6	32.4	52.4	69.0	

Values shown are averages for all filter sets. Some components depend on the value of the transmittance. The 'Non Parallel Filter Surfaces' component depends on the specific filter characteristics and is only correlated with other measurements of the same filter. Only the budgets for Steps 1 and 3 are shown as there is no additional information in the budget for Step 5.

Uncertainty budget for MSL, Filter E, Step 1

Uncertainty Component	Wavelength							
	380	400	500	600	700	800	900	1000
Temperature	4.38e-09	2.13e-07	2.21e-07	5.72e-07	1.25e-06	9.76e-07	5.06e-07	1.20e-06
Wavelength	1.41e-07	5.41e-07	1.17e-07	3.05e-07	3.24e-06	3.13e-07	7.59e-07	9.92e-08
Beam Size & Position	1.78e-09	3.28e-08	7.91e-08	8.39e-08	3.23e-07	5.42e-07	4.86e-07	4.25e-07
Obliquity	2.45e-09	4.61e-08	1.10e-07	1.18e-07	4.56e-07	7.68e-07	6.90e-07	6.04e-07
Filter Drift & Instability	0.0	3.39e-07	0.0	5.64e-08	0.0	0.0	0.0	6.94e-07
Non Parallel Filter Surfaces	7.05e-10	1.47e-08	1.61e-08	1.31e-08	7.16e-08	1.59e-07	1.25e-07	1.25e-07
Total Type B Uncertainty	1.41e-07	6.78e-07	2.86e-07	6.68e-07	3.51e-06	1.40e-06	1.25e-06	1.60e-06
Degrees of Freedom	19.1	40.0	96.3	79.3	26.2	66.0	50.4	98.5
Type A	7.90e-07	4.40e-07	2.60e-07	3.30e-07	1.30e-06	1.70e-06	2.00e-06	1.00e-06
Total Uncertainty	8.00e-07	8.00e-07	3.80e-07	7.30e-07	3.70e-06	2.20e-06	2.40e-06	1.90e-06
Degrees of Freedom	27.6	65.3	89.7	105.6	33.6	61.3	46.4	120.4

Uncertainty budget for MSL, Filter E, Step 3

Uncertainty Component	Wavelength								Correlation Coefficient
	380	400	500	600	700	800	900	1000	
Temperature	4.09e-09	2.13e-07	2.13e-07	5.67e-07	1.23e-06	8.79e-07	3.31e-07	1.15e-06	1.00
Wavelength	1.38e-07	5.40e-07	1.17e-07	3.05e-07	3.24e-06	3.13e-07	7.59e-07	9.92e-08	1.00
Beam Size & Position	1.74e-09	3.28e-08	7.91e-08	8.39e-08	3.23e-07	5.42e-07	4.86e-07	4.25e-07	1.00
Obliquity	2.44e-09	4.60e-08	1.10e-07	1.18e-07	4.56e-07	7.68e-07	6.90e-07	6.04e-07	0.50
Filter Drift & Instability	0.0	2.70e-07	0.0	3.42e-08	0.0	0.0	0.0	5.41e-07	0.0
Non Parallel Filter Surfaces	6.99e-10	1.47e-08	1.61e-08	1.31e-08	7.16e-08	1.59e-07	1.25e-07	1.25e-07	0.80
Total Type B Uncertainty	1.38e-07	6.53e-07	2.80e-07	6.64e-07	3.51e-06	1.34e-06	1.19e-06	1.49e-06	
Degrees of Freedom	19.1	36.6	90.8	76.7	25.9	60.6	45.0	89.0	
Type A	7.80e-07	4.40e-07	2.60e-07	3.30e-07	1.30e-06	1.70e-06	2.00e-06	1.00e-06	
Total Uncertainty	7.90e-07	8.00e-07	3.80e-07	7.30e-07	3.70e-06	2.20e-06	2.30e-06	1.80e-06	
Degrees of Freedom	27.6	65.3	86.3	103.7	33.3	57.9	44.4	116.0	