

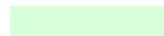
Key comparison BIPM.RI(II)-K1.Co-56

MEASURAND : **Equivalent activity of ^{56}Co**

x_i : **result of measurement carried out in the SIR for the sample submitted by laboratory i**

u_i : **combined standard uncertainty of x_i**

Lab i	x_i / kBq	u_i / kBq	Date of measurement
NPL	5076	31	91-04-05
PTB	5063	21	95-12-12
LNE-LNHB	5094	8	98-03-10 and 98-05-07
CMI-IIR	5029	28	2006-05-04

 Mean of both measurements

Key comparison BIPM.RI(II)-K1.Co-56

MEASURAND : Equivalent activity of ⁵⁶Co

Key comparison reference value: the SIR reference value for this radionuclide is $x_R = 5066$ kBq, with a standard uncertainty $u_R = 14$ kBq.

x_R is computed as the mean of the participants' results.

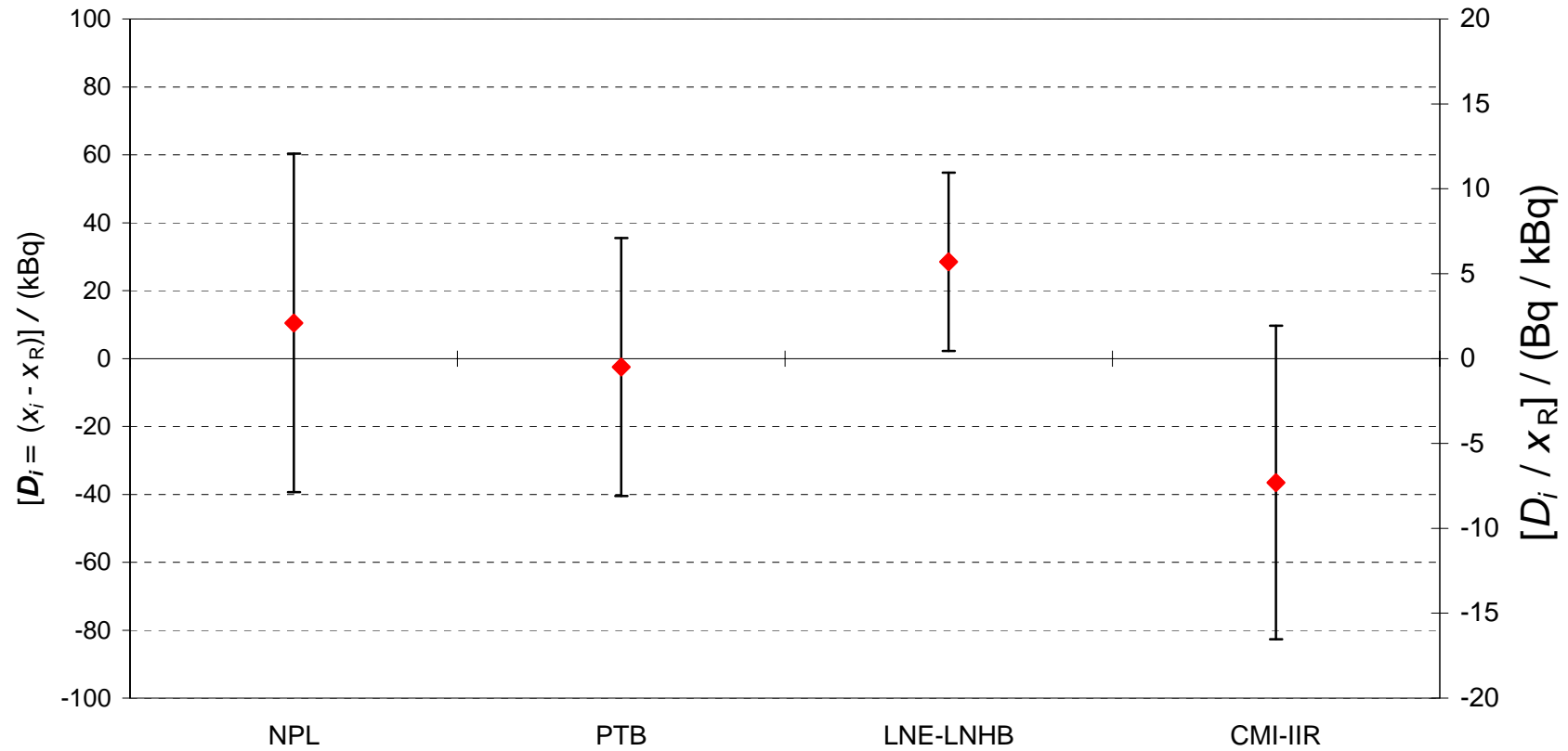
The degree of equivalence of each laboratory with respect to the reference value is given by a pair of terms: $D_i = (x_i - x_R)$ and U_i , its expanded uncertainty ($k = 2$), both expressed in kBq, with n the number of laboratories, $U_i = 2[(1 - 2/n)u_i^2 + (1/n^2)\sum u_i^2]^{1/2}$ (see section 4.1 of the Final Report dated 23 March 2010).

The degree of equivalence between two laboratories is given by a pair of terms: $D_{ij} = D_i - D_j = (x_i - x_j)$ and U_{ij} , its expanded uncertainty ($k = 2$), both expressed in kBq. The approximation $U_{ij} \sim 2(u_i^2 + u_j^2)^{1/2}$ is used in the following table.

Lab j \implies

Lab i \Downarrow	D_i U_i / kBq		NPL		PTB		LNE-LNHB		CMI-IIR	
	D_i	U_i	D_{ij}	U_{ij}	D_{ij}	U_{ij}	D_{ij}	U_{ij}	D_{ij}	U_{ij}
NPL	11	50			13	75	-18	64	47	84
PTB	-3	38	-13	75			-31	45	34	70
LNE-LNHB	29	26	18	64	31	45			65	58
CMI-IIR	-37	46	-47	84	-34	70	-65	58		

BIPM.RI(II)-K1.Co-56
Degrees of equivalence for equivalent activity of ⁵⁶Co



Right-hand axis shows approximate values only.