

Live Demonstration 2

Part 2.1 CABDLY and REFDLY

Measurements

Ricardo Gutiérrez

Carlos A. Ortiz

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CABDLY

Techniques of antenna cable delay measurement for GPS time transfer

Daniele Rovera*, Michel Abgrall*, Pierre Uhrich* and Marco Siccardi†

*LNE-SYRTE, Observatoire de Paris - LNE - CNRS - UPMC, France

Email: daniele.rovera@obspm.fr

†SKK Electronics, Cuneo, Italia

1. PPS

2. Halfwave (Microwave Gen.)

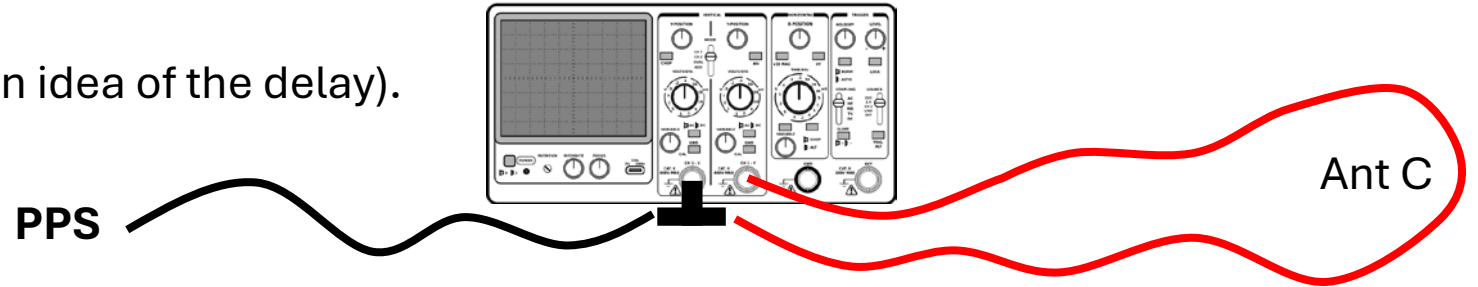
3. Vector Network Analyzer

4. Simulator

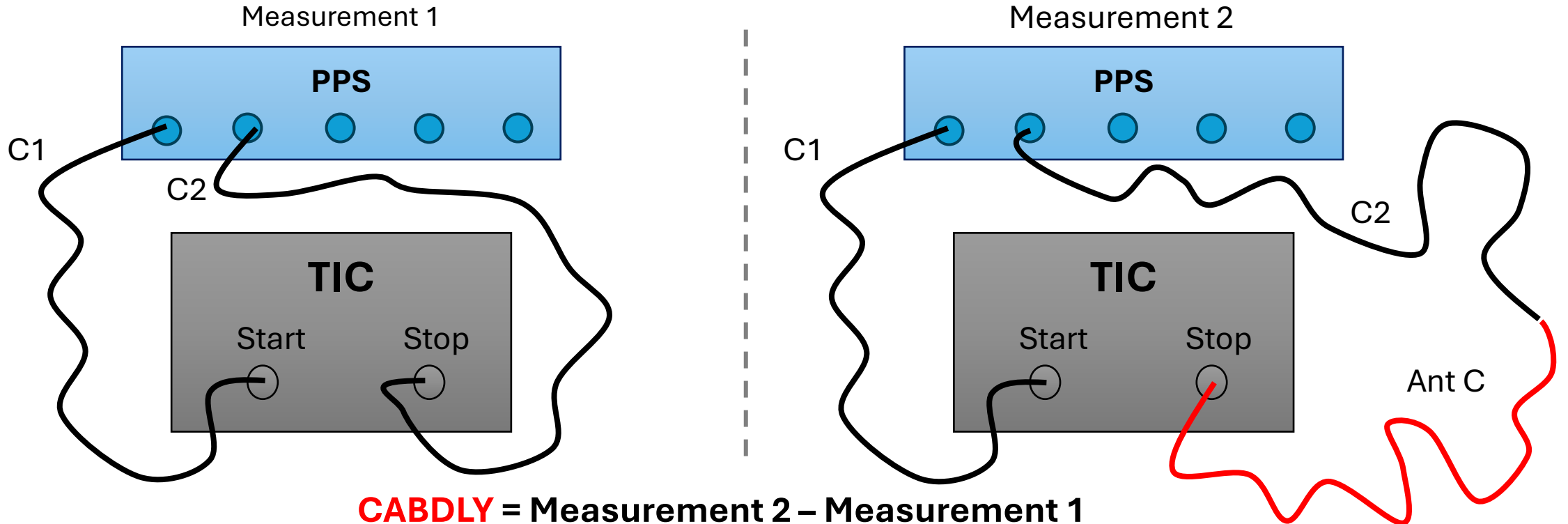
Method	Mode	Cable 1
1 PPS SR620	TX	158.65
1 PPS STX	TX	158.39
1 PPS SR620	RX	158.65
$\lambda/2$ Resonator L1	RX	158.22
$\lambda/2$ Resonator L2	RX	158.24
VNA L1	TX	158.07
VNA L2	TX	158.07
VNA TDR	TX	158.27
VNA TDR	RX	158.34
Sim L1	TX	158.116
Sim L2	TX	158.126

CABDLY Measurement (Transmission)

Oscilloscope (to have an idea of the delay).

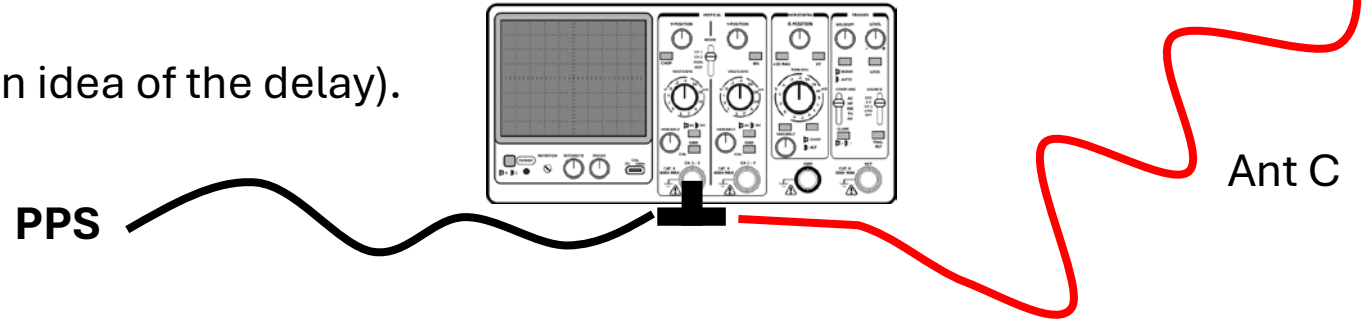


TIC (Differential measurement)

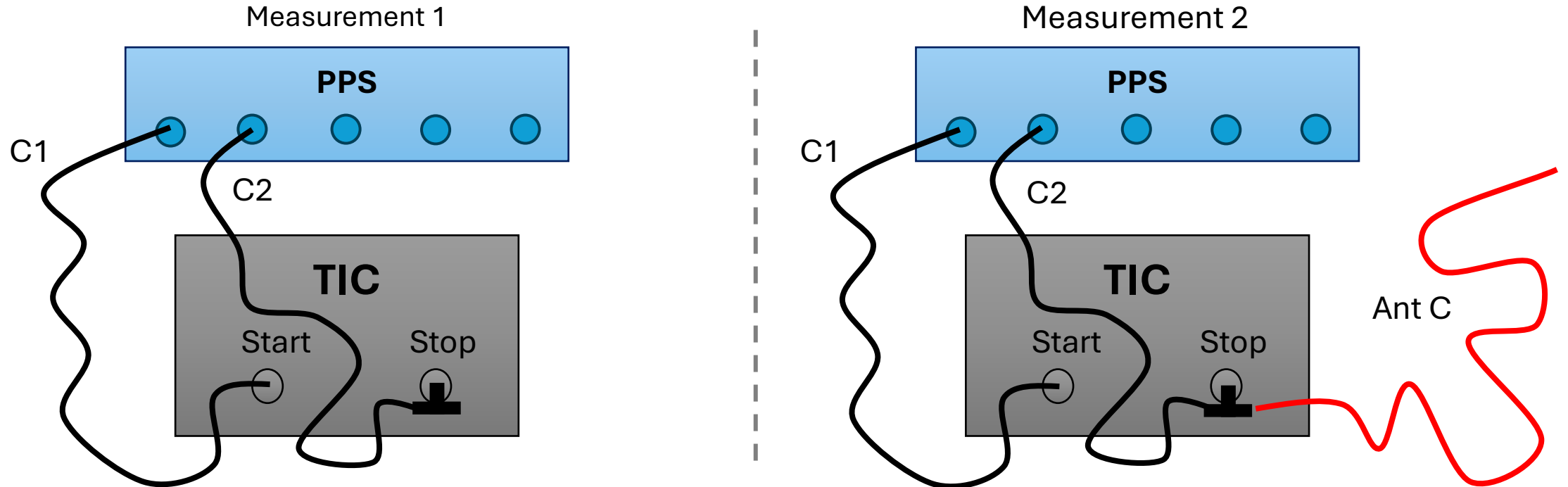


CABDLY Measurement (Reflection)

Oscilloscope (to have an idea of the delay).



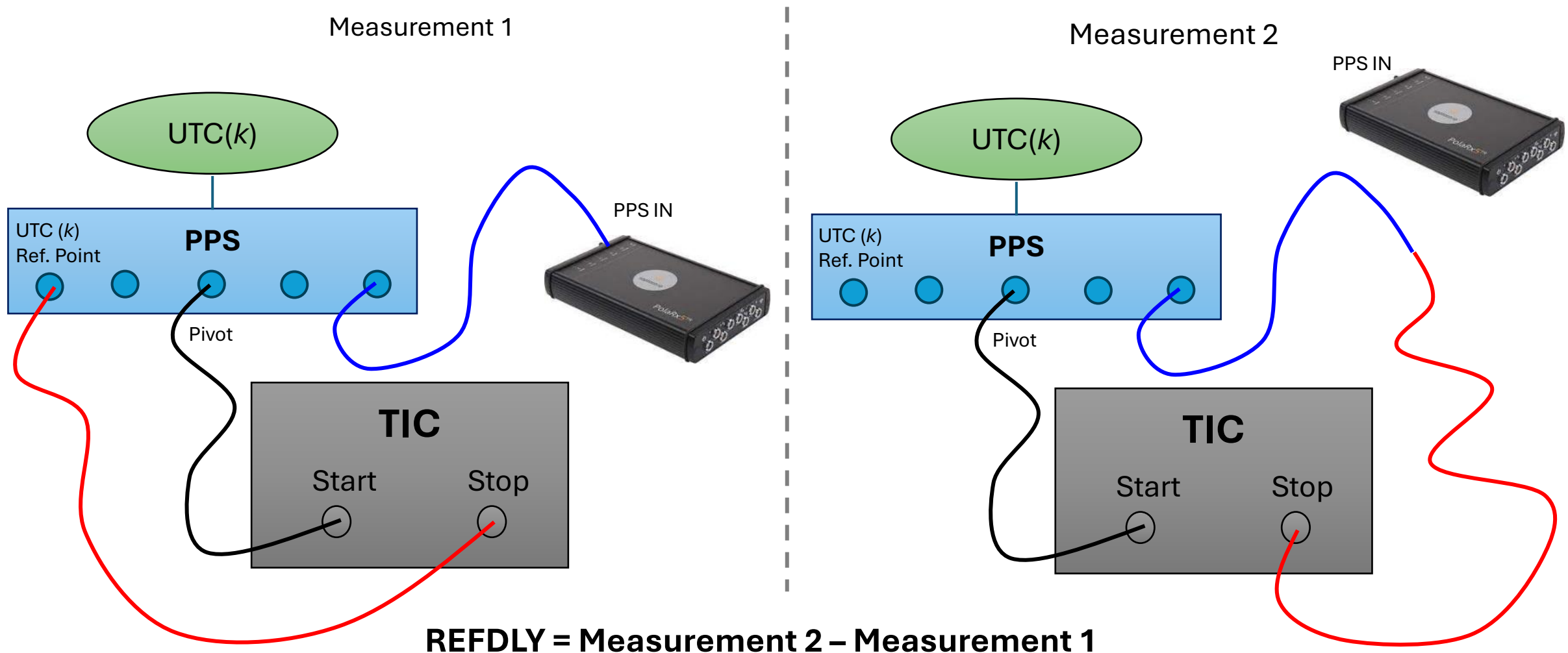
TIC (Differential measurement)



$$\text{CABDLY} = (\text{Measurement 2} - \text{Measurement 1}) / 2$$

REFDLY Measurement

Pivot Method (Latch at receiver PPS IN)



REFDLY Measurement

Pivot Method (Latch at receiver PPS OUT)

