

Altimetry and Transponder Ground Simulation Experiment

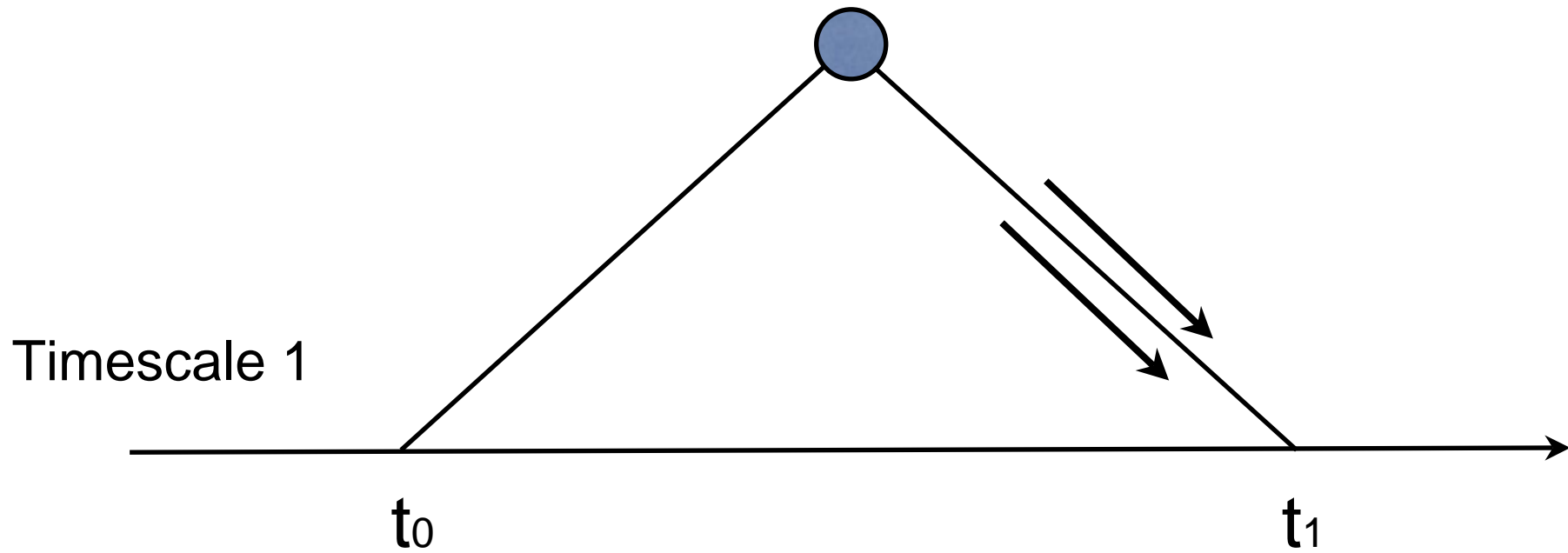
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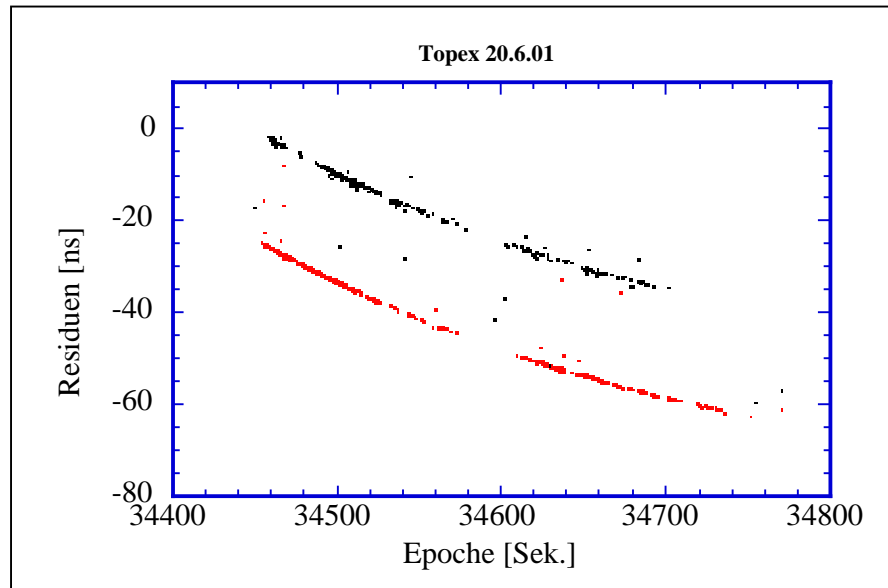
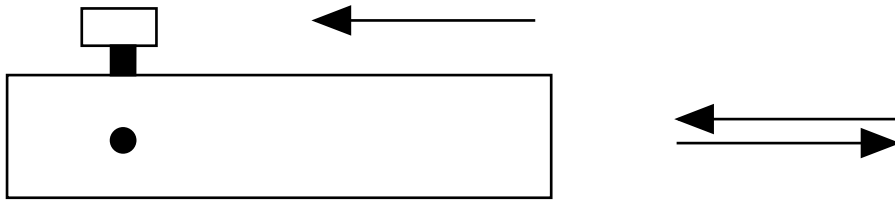
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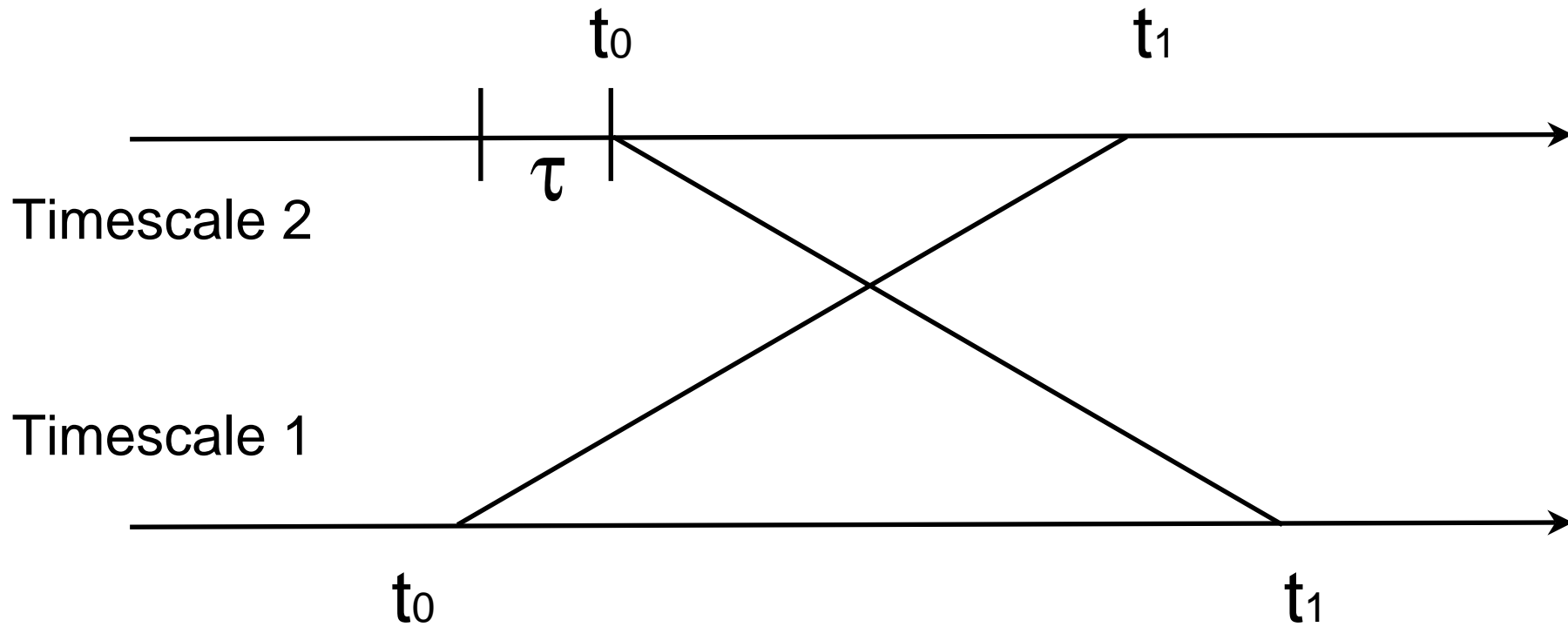
SLR: “Transponder Simulation”



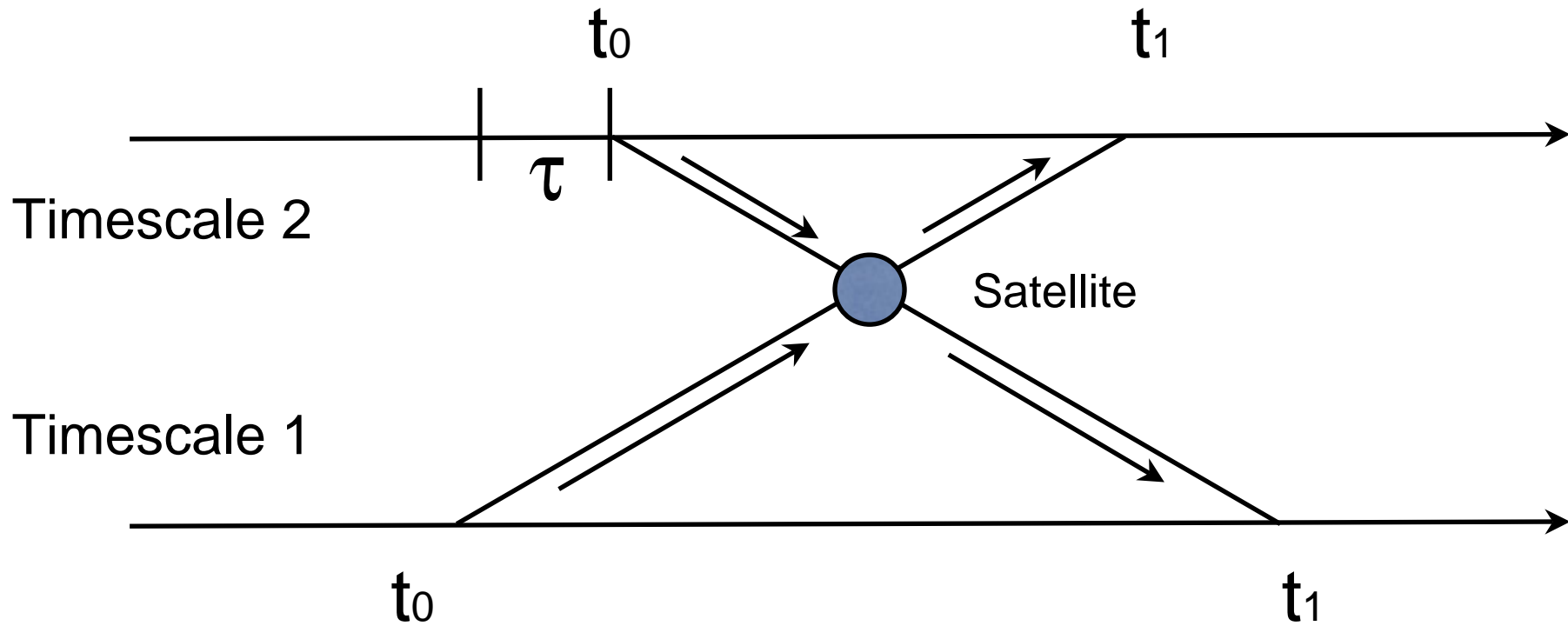
Early Receiver Tests



Asynchronous Transponder

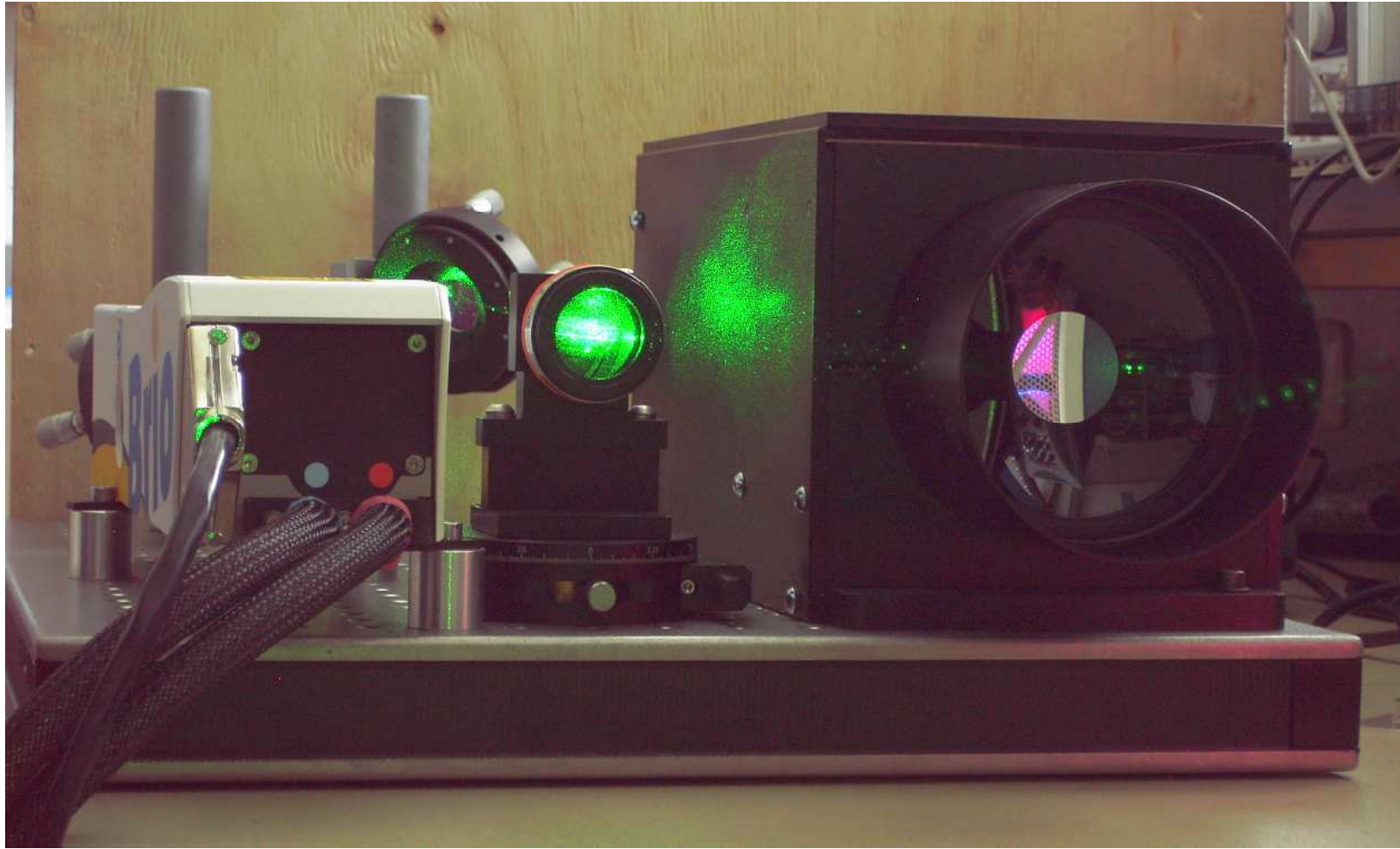


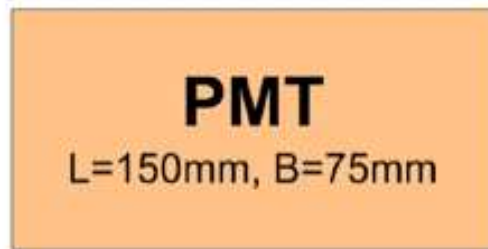
Transponder Testbed



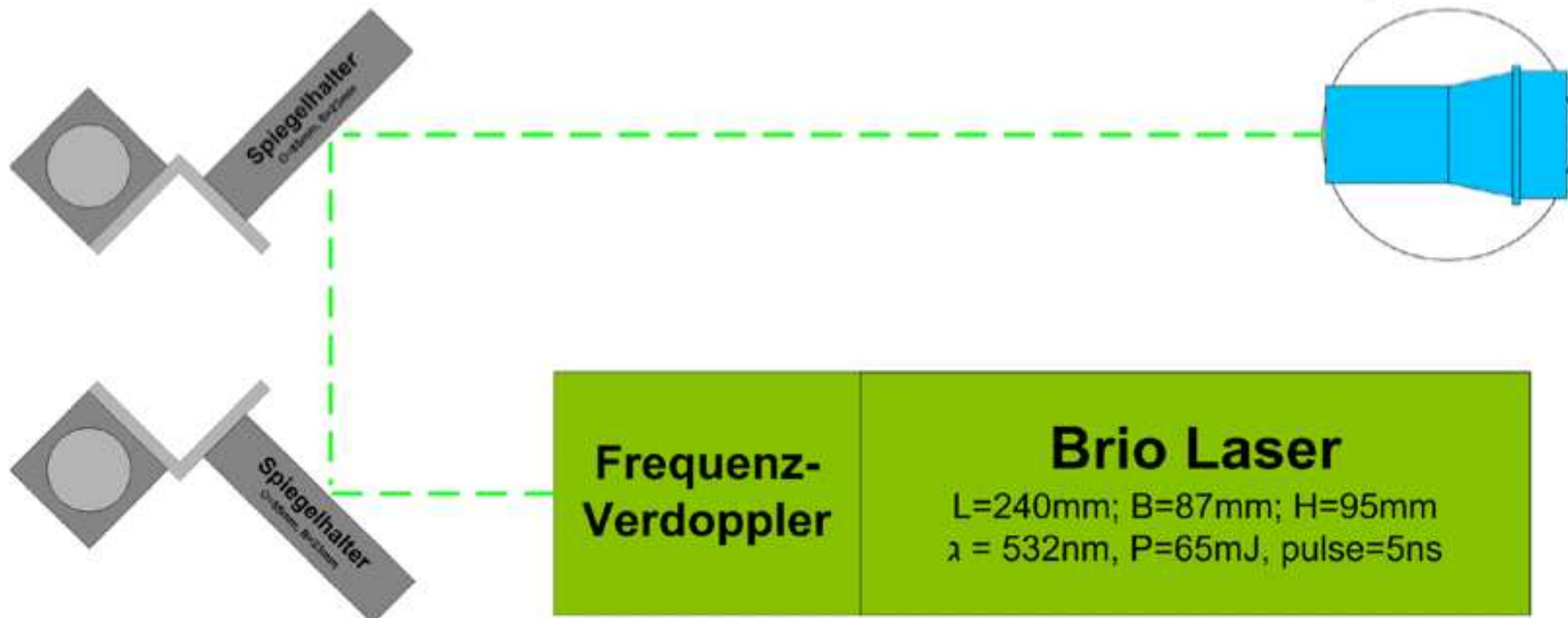
Merging Timescales \approx put the 2 systems side by side

Altimeter Demonstrator





Strahlaufweitung
L=86,5, max Ø=46mm



Laser: 3ns, 45 mJ

8x Beam
Expander

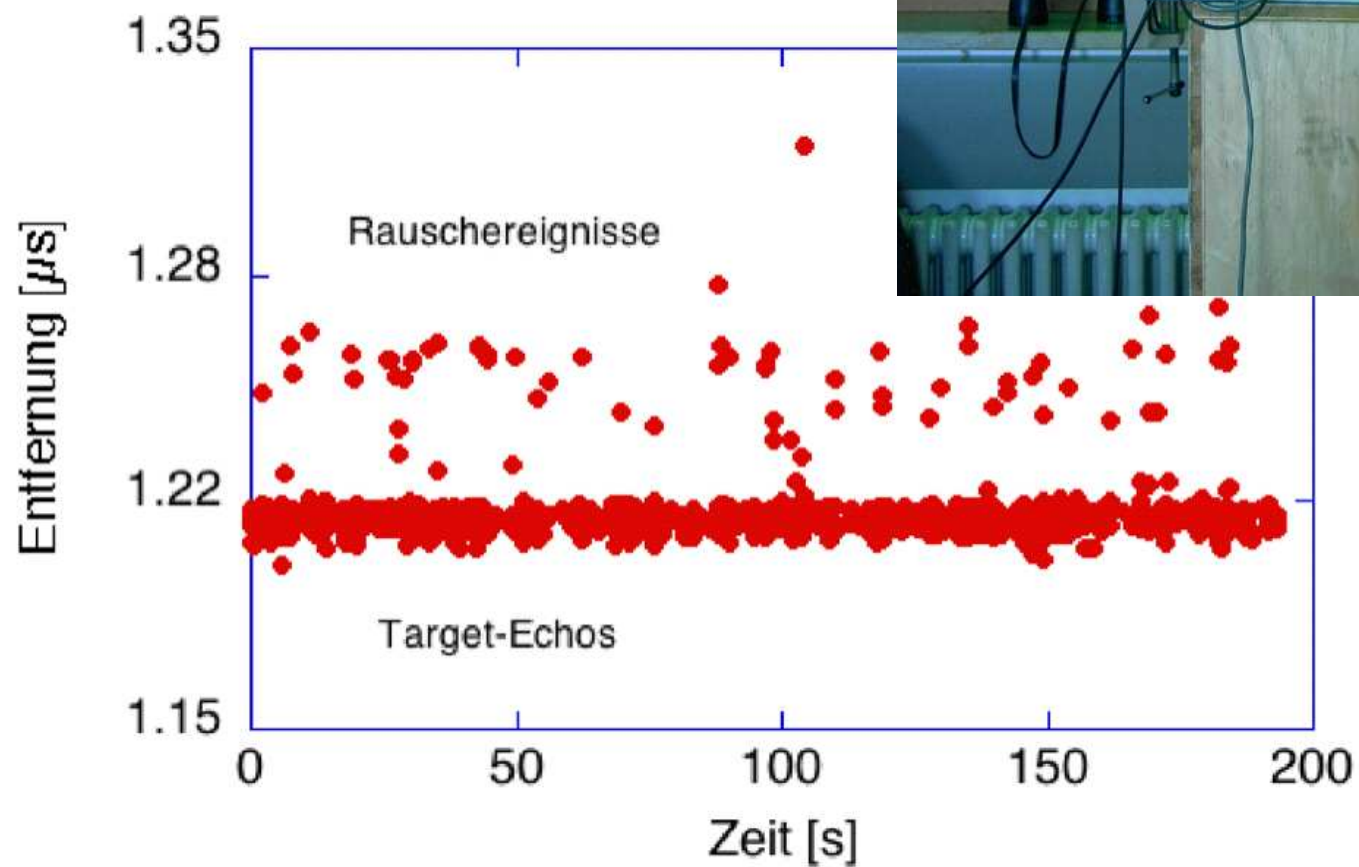


Mirror
Start-
Detector

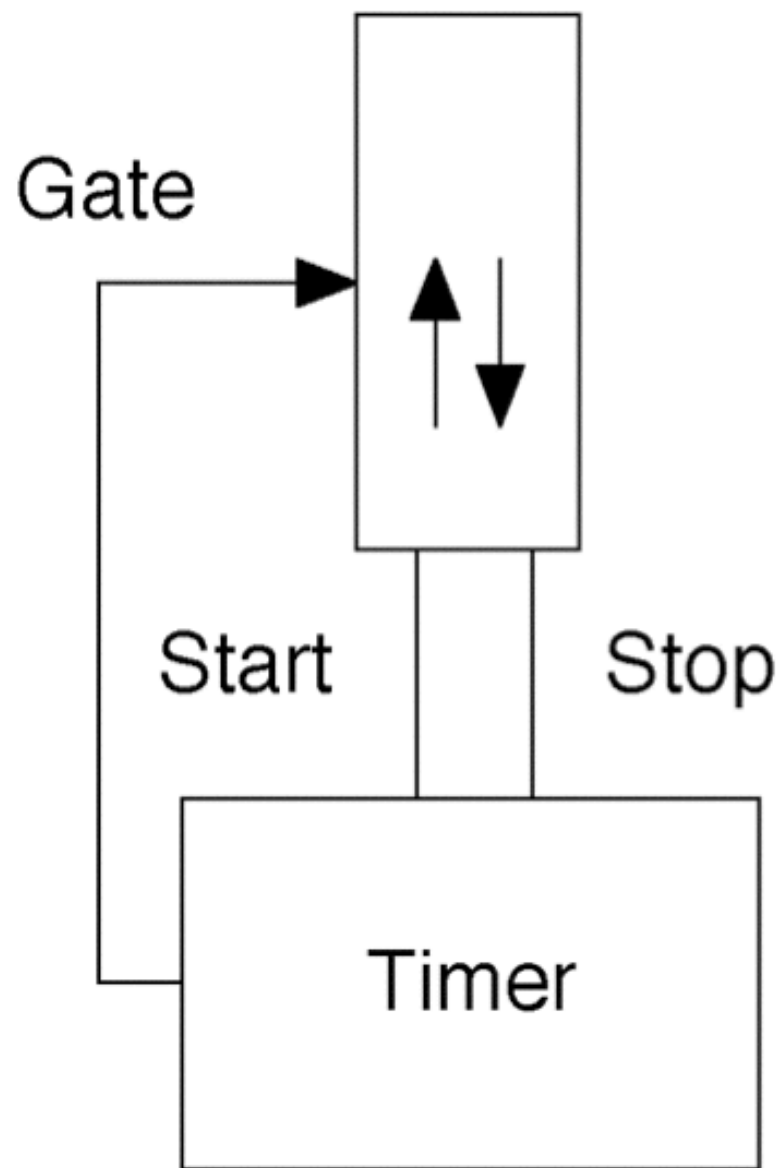
Telescope: Maksutov, 12cm

PMT, SPCM, SPAD

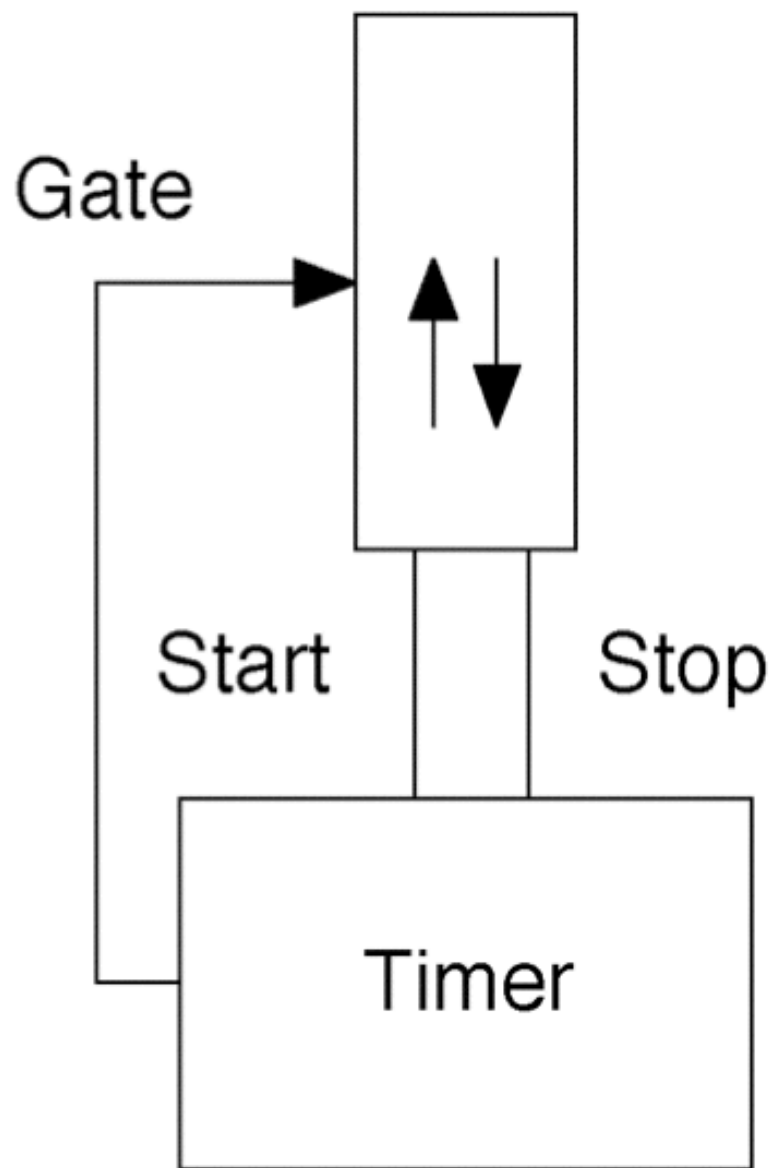
Test-Operations @ Wetzell



WLRS

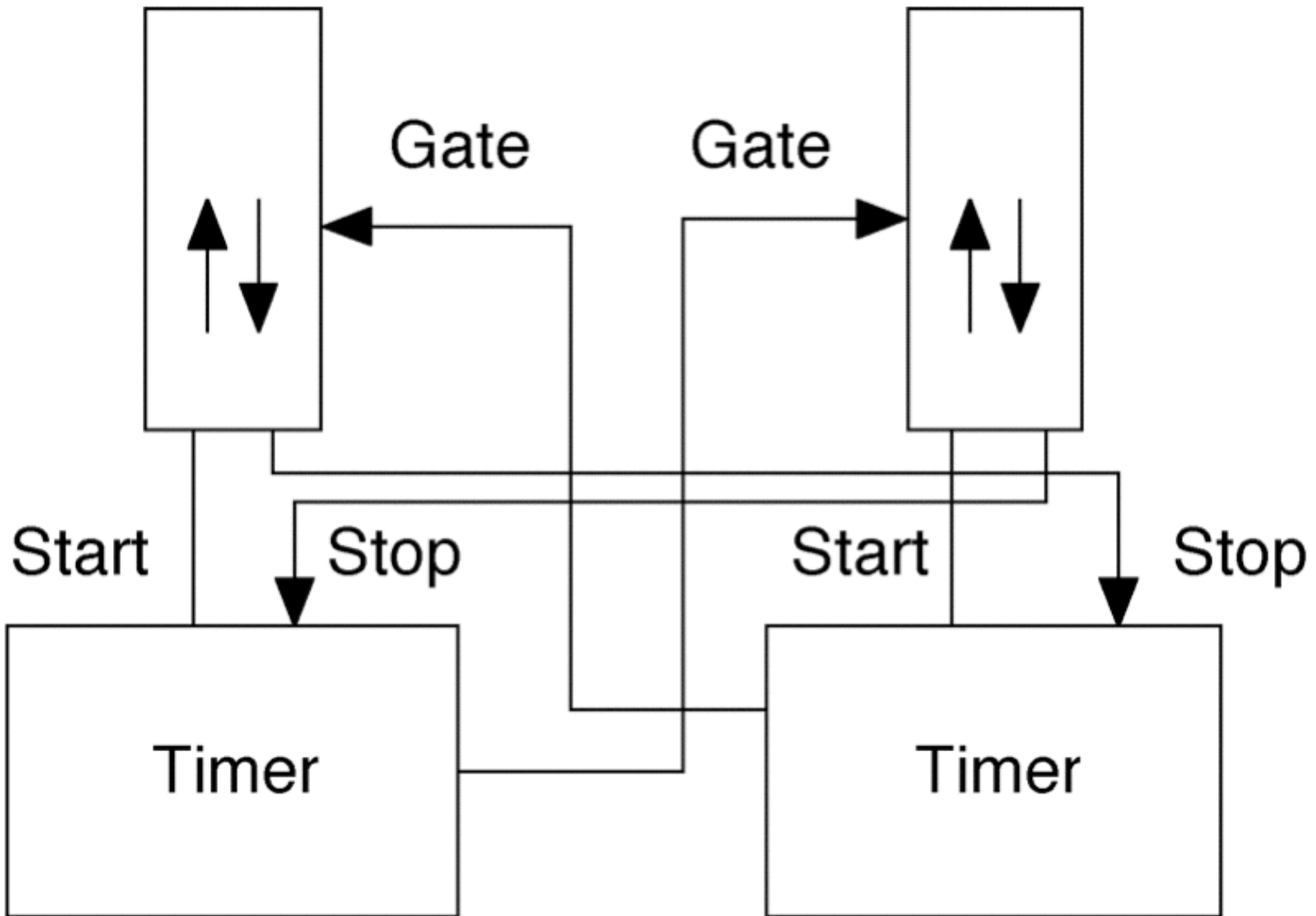


ALTIDEMON



WLRS

ALTIDEMON



Config.	n_{ph} Ajisai	n_{ph} ERS	n_{ph} Lageos
W - A	106k	65k	301
A - W	4.1k	2.5k	12
W - W	1573k	902k	4.4k
A - A	281	172	0.8

Expected Link-Budget

[Degnan 2006]

Zenith-Distance: 30° Atmosph. Transmission: 0.7

AltiDemon located on top of 8834



Alignment based on a distinct feature ≈ 6 km away