

GEO600: Status and Performance in the „E7“ Coincidence-Run

LIGO-G020117-00-Z

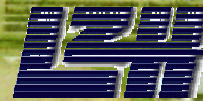


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G020054-00-M



Laser Zentrum Hannover e.V.

GEO600 – Status January 2002



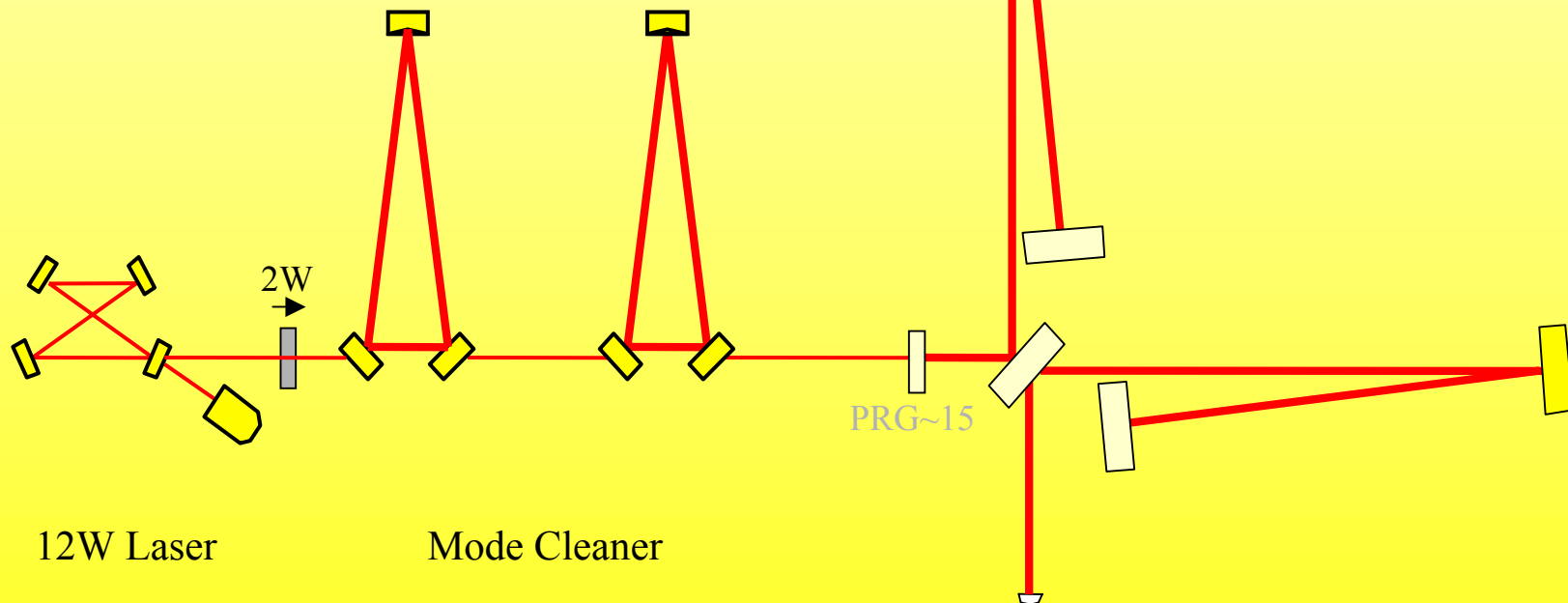
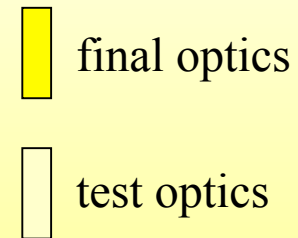
Locking sequence:

Slave laser, MC1, MC2

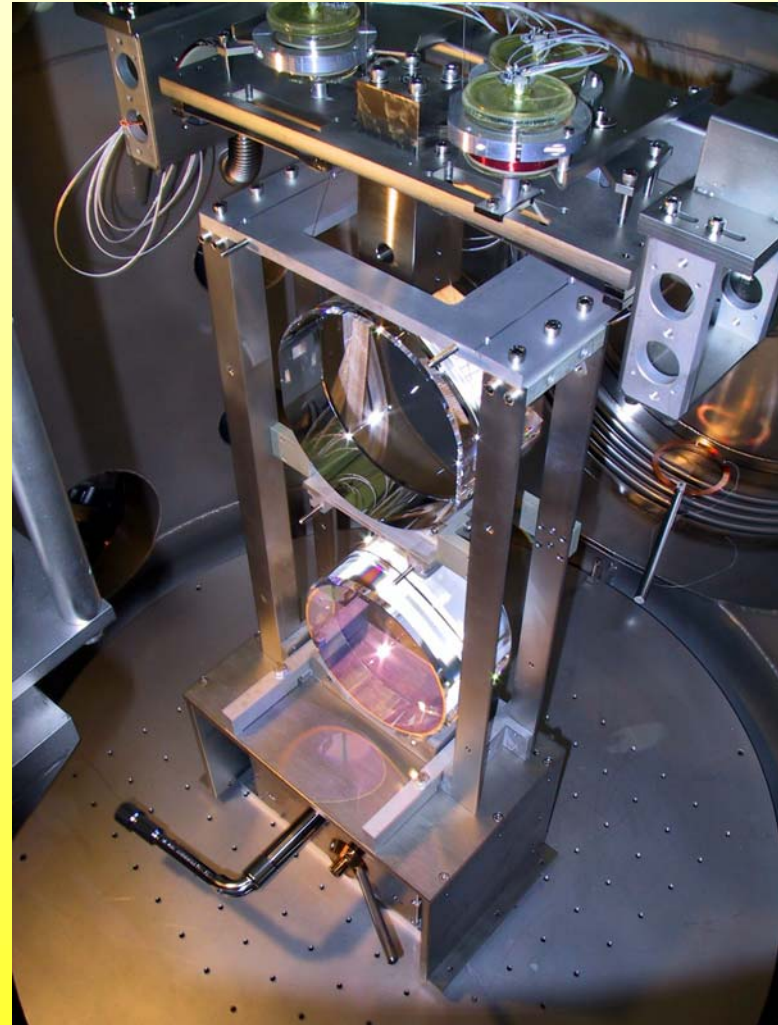
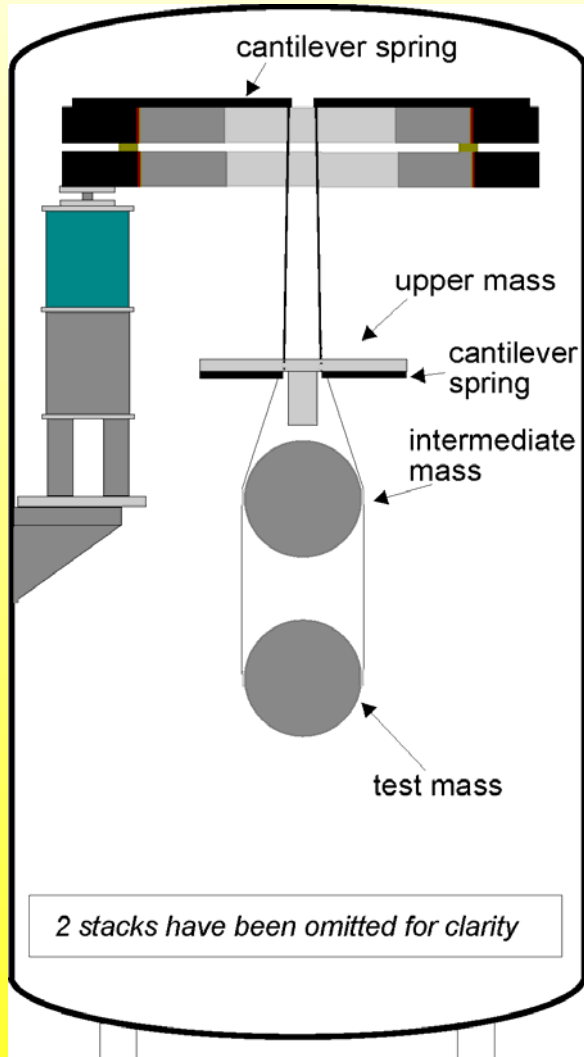
MC2 @ $f < 10\text{Hz}$ onto master laser piezo

PRC (asymmetric BS)

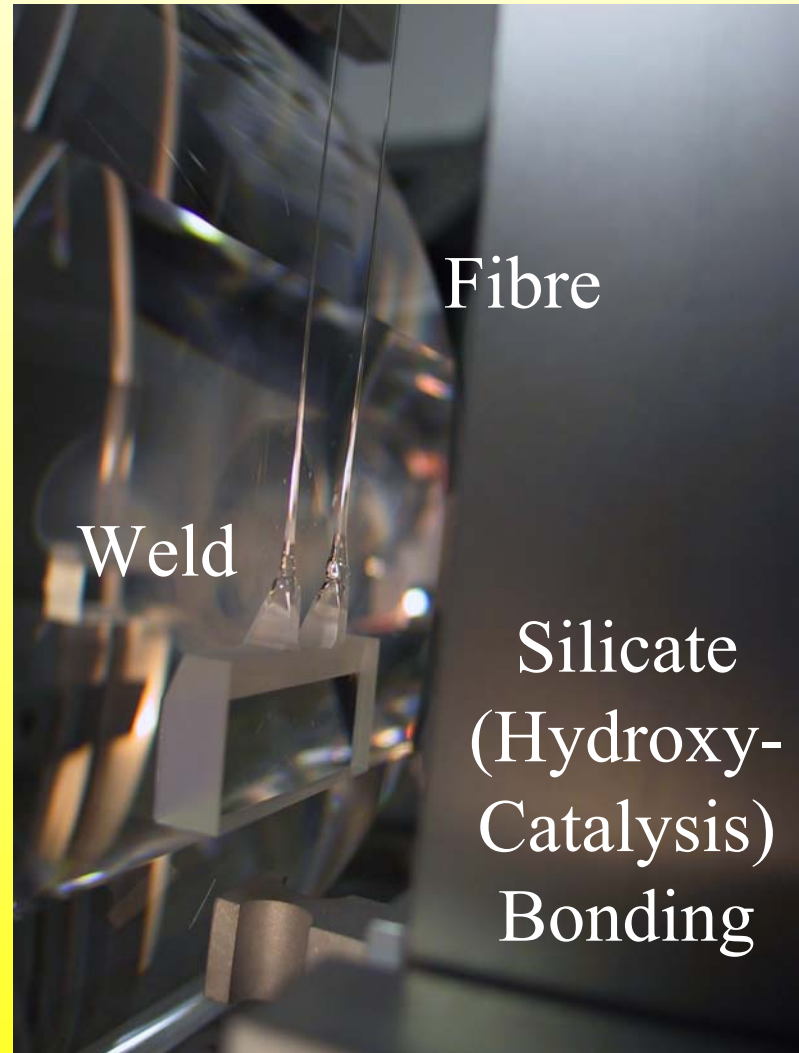
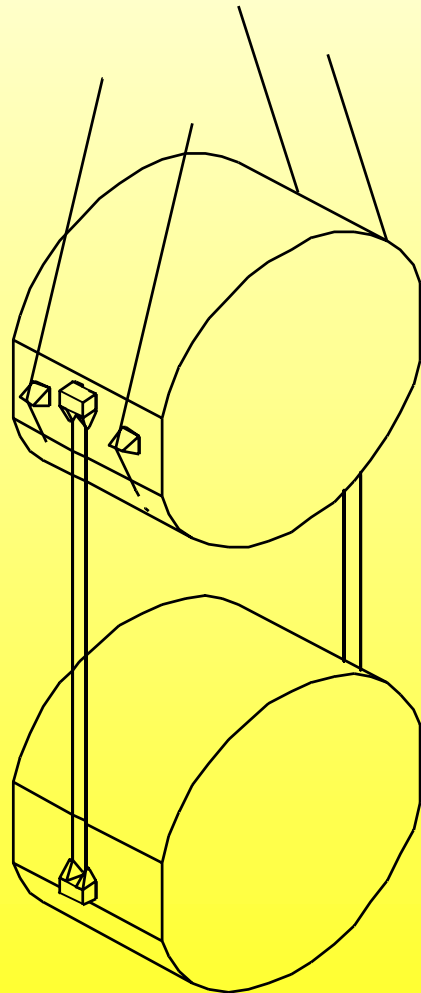
Michelson (DC-lock off after 3s, 500ms)



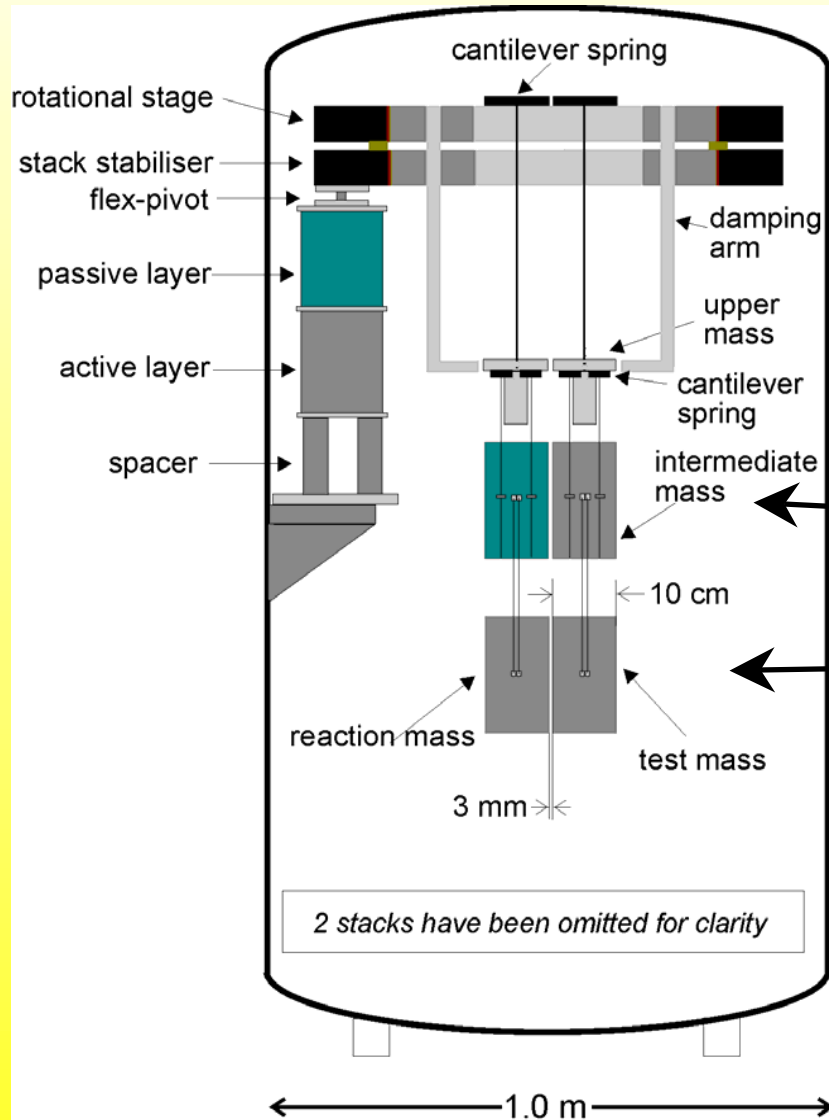
GEO600 Triple Pendulum



Monolithic Suspension



Longitudinal Control Split FB



$f < 10\text{Hz}$ (2x)

$f > 10\text{Hz}$ (1x)

High-Frequency Actuator



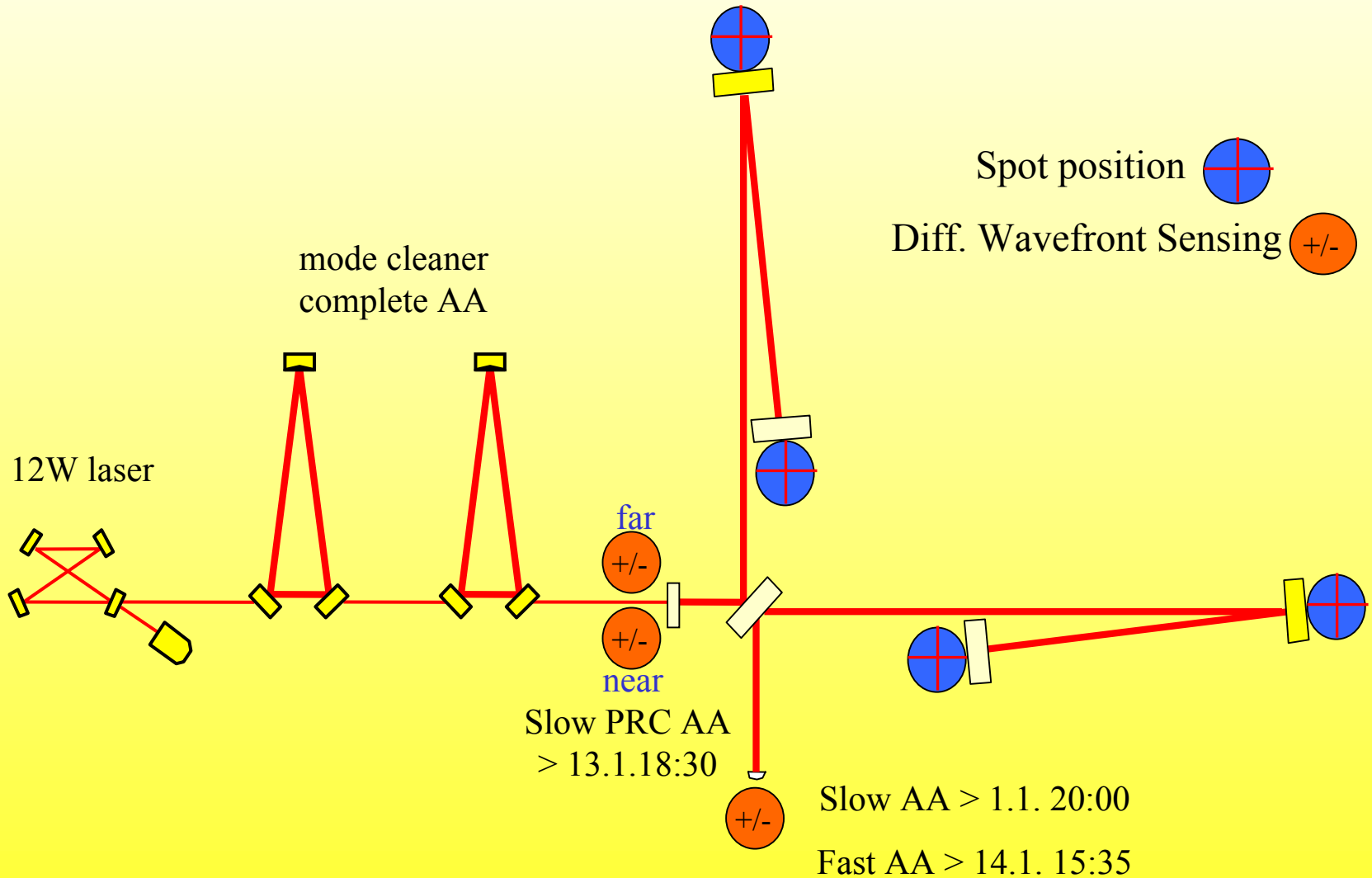
Electro-Static Drive

Bias voltage: 500V

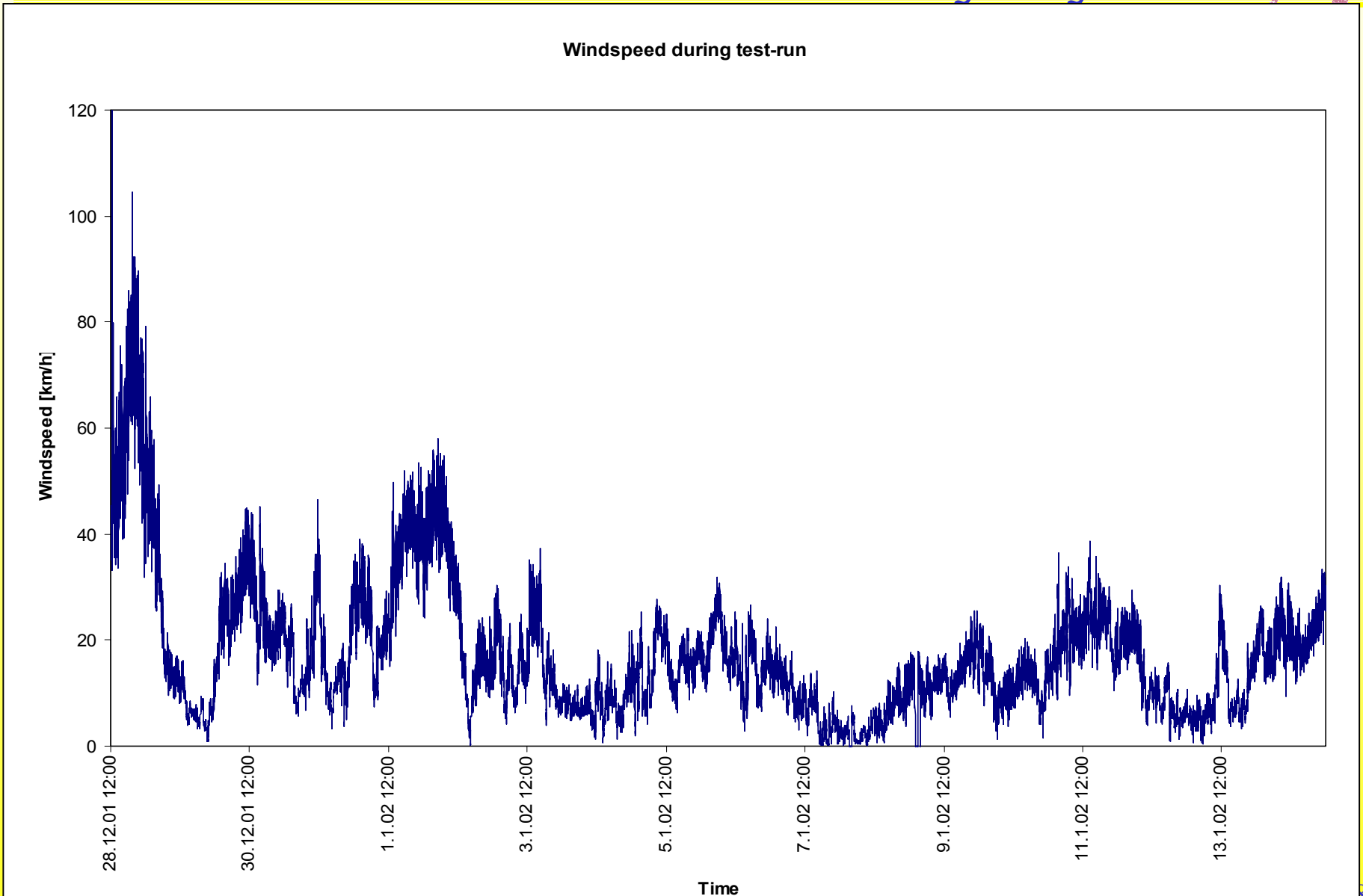
Working range:
 $0-800V \approx 4\mu\text{m}$



Michelson Auto-Alignment



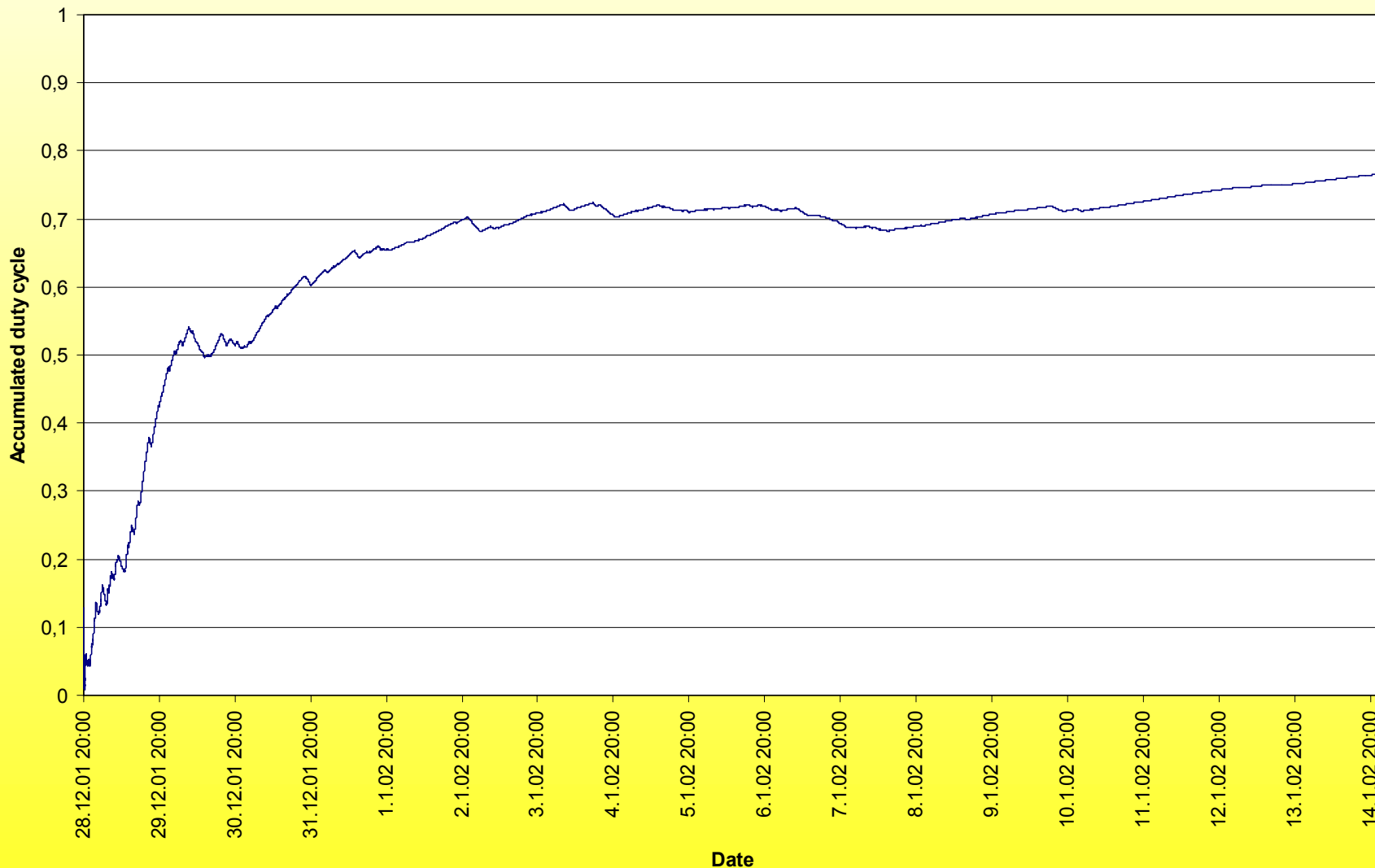
Coincidence Test Run: Duty Cycle



Coincidence Test Run: Duty Cycle



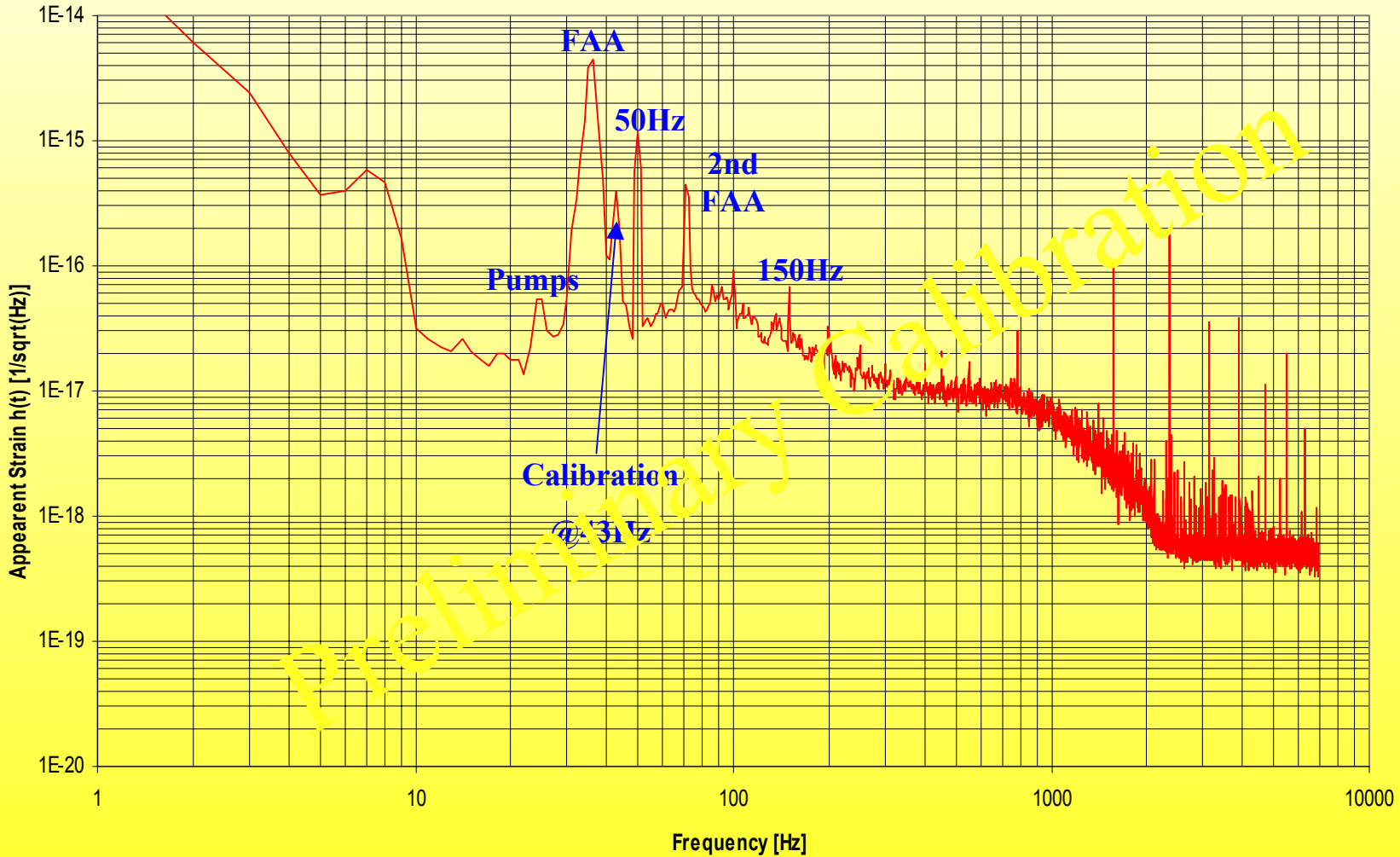
overall duty cycle (no maintenance periods subtracted)



Coincidence Run Sensitivity



14.01.2002 17:24:50



Coincidence Run Sensitivity



14.01.2002 17:24:50

