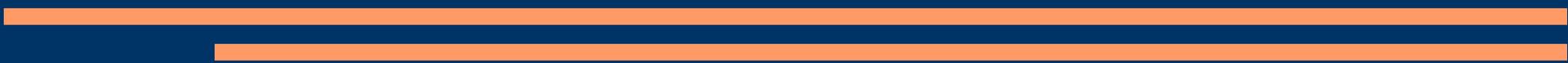




Status of the SOS-W

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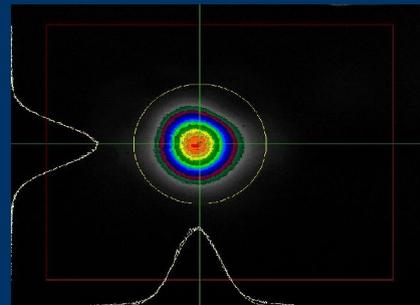


SOS-W Design

- kilohertz operation with two colours (850nm and 425nm)
 - bistatic SLR telescope, 16cm Transmit-, 50cm Receive Aperture
 - single photoelectron mode
 - autonomous observation
 - narrow spatial and spectral filtering
 - precise mount positioning
 - additional piezo controlled mirrors
-
-

Ti:SAP Laser

- delivered in 12/06
- DPSS, SESAM modelocked
- Master Oscillator plus Regenerative Amplifier
- 1mJ @ 40ps
- oscillator length control by frequency standard
- phase locked to local clock
- circular polarized output at 425nm and 850nm



Telescope Peer Reinforcement



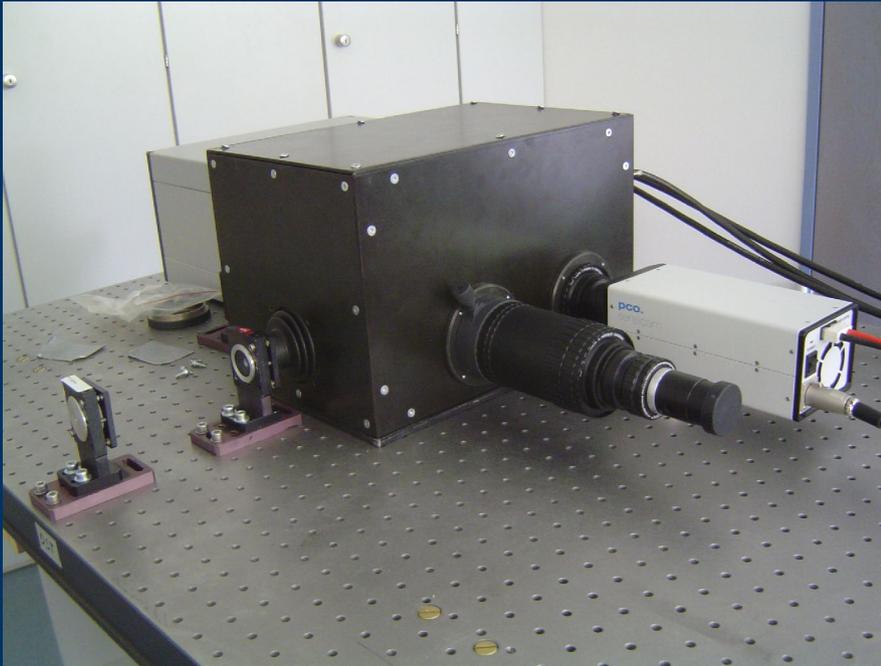
- Modal Analysis indicated necessity of reinforcement
- Peer Height Adjustment
- Peer Mass approx. 80 Tons
- Ensures lowest Eigenfrequency of 42Hz
- Verified by Modal Analysis

Telescope Mount



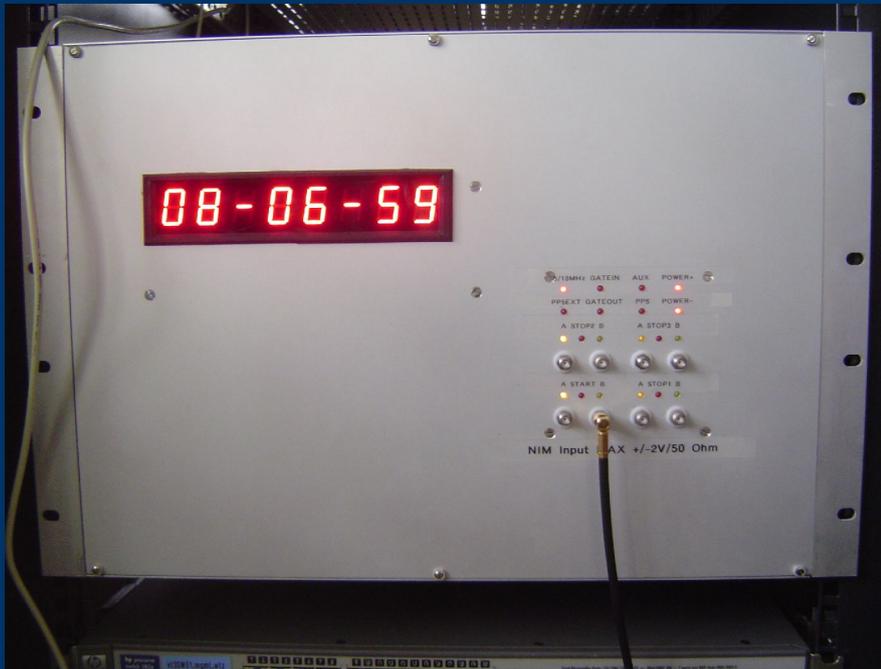
- 0.045 arcsec Resolution
- On Axis tape encoders
- Pointing Stability < 1 arcsec
- 3800 kg moveable weight
- friction drive
- 20 deg/s Azimuthspeed
- 10 deg/s Elevationspeed
- Acceleration 10/5 deg/s**2

Detector Box



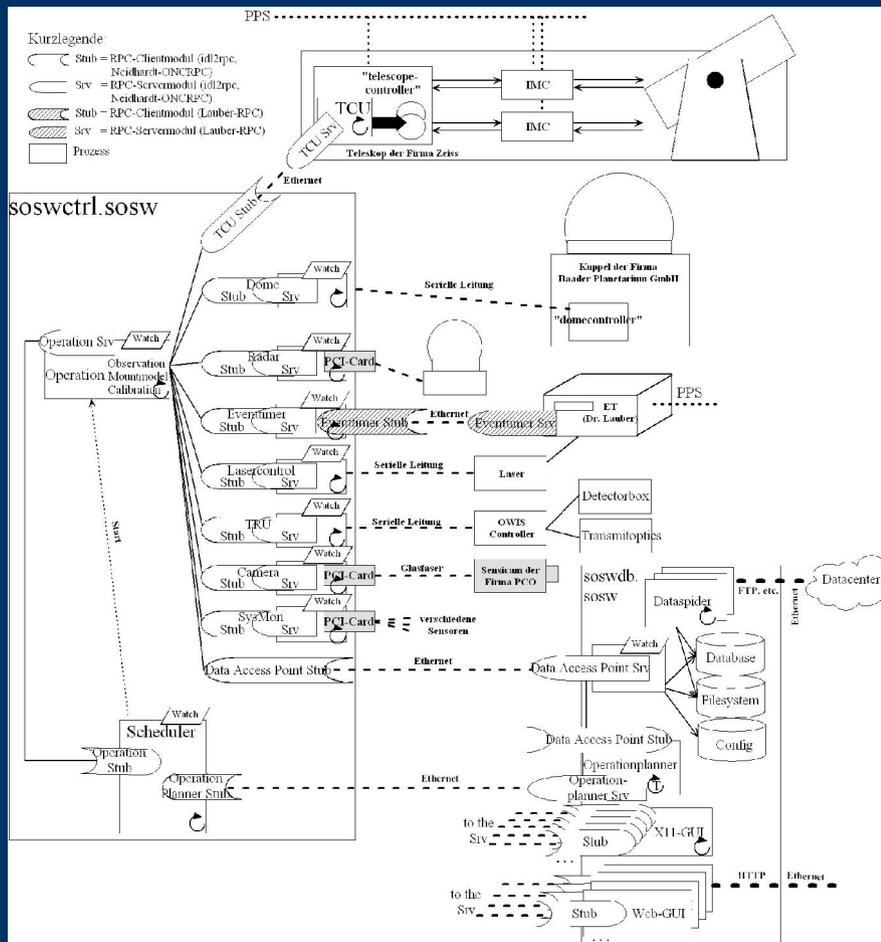
- Wetzell Development
- 2 Detectors (MCP, APD)
- Pressure tuned FP Etalon
- .05nm spectral width at high Transmission (80%)
- Variable ND Filter
- Guiding Camera
- Temperature stabilized
- Spatial Filter with 1 arcsec Resolution
- Delivery to Zeiss for Integration in 09/2007

Event Timer



- Based on Dassault Counters
- kHz capable
- 1.2ps Resolution
- 5ps Jitter
- TCP/IP Interface
- Currently under Test for Transponder Experiment at WLRS

Software Development



- generally based on Open Source
- Debian Linux with RTAI-patch
- Distributed Client-Server System
- Lowlevel Communication Middleware based on ONC RPC
- wxWidgets GUI seperated from Functionality

Final Project Schedule



- Facility ready since 01/2007
- Subsystem Hardware Installation finalized in 12/2007
- Aircraft Detection Radar Installation in 12/2007
- Telescope Delivery expected in 04/2008
- Operational in 06/2008