

LINC-NIRVANA leaves the Lab

AstroTechTalk 10.07.2015

Thomas Bertram



- How the complexity of the Instrument was approached
- What LINC-NIRVANA can do now
- What it cannot do yet
- What comes next

Instrument Breakdown Structure

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LINC-NIRVANA

MCAO SX

Ground Layer Wavefront Control System (GWS SX)

Annular Mirror (SX)

GWS Sensor (SX)

High Layer Wavefront Control System (MHWS SX)

Collimator (SX)

Warm Dichroic (SX)

FP20 Optics (SX)

K-Mirror (SX)

Patrol Camera (SX)

MHWS Sensor (SX)

LAOS
Adaptive Optics Software

NIR Camera System (NIRCS)

Cryostat and Cryocooler

NIR Opto-Mechanics

Science Detector

LIRCS
Infrared Camera Software

Fringe and Flexure Tracking System (FFTS)

Piston Mirror

FFTS Detector

FFTS Sensor

OVMS

LFSTS
FFTS Software

MCAO DX

Ground Layer Wavefront Control System (GWS DX)

Annular Mirror (DX)

GWS Sensor (DX)

High Layer Wavefront Control System (MHWS DX)

Collimator (DX)

Warm Dichroic (DX)

FP20 Optics (DX)

K-Mirror (DX)

Patrol Camera (DX)

MHWS Sensor (DX)

LAOS
Adaptive Optics Software

Common

Bench

Cabinets

Computer Architecture

Services

Calibration Units (SX)

Calibration Units (DX)

TwiceAsNice
Common Software

LSYS
Monitoring

LBCS
Beam Control Software

LOPS
Obs. Preparation SW

LDRS
Data Reduction Software

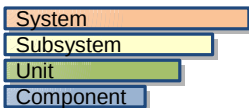
Instrument

System

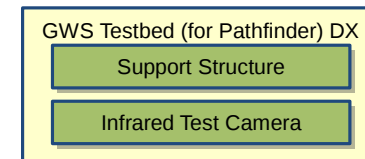
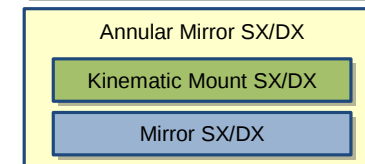
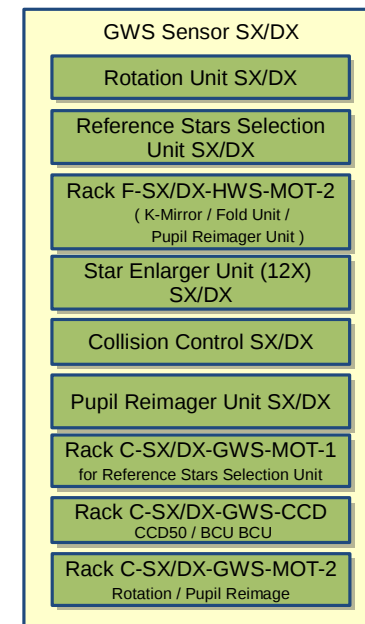
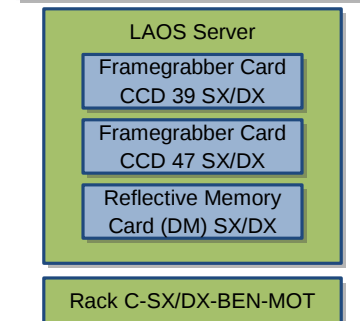
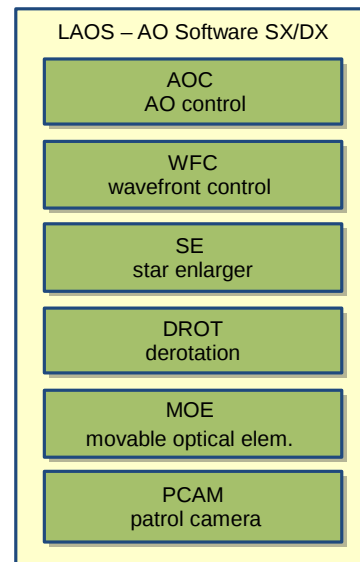
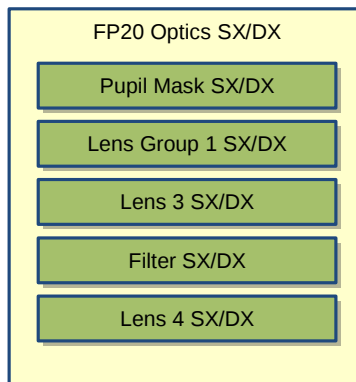
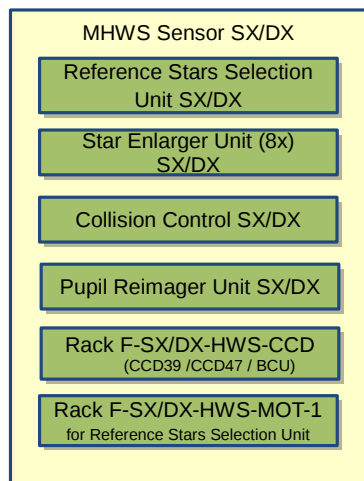
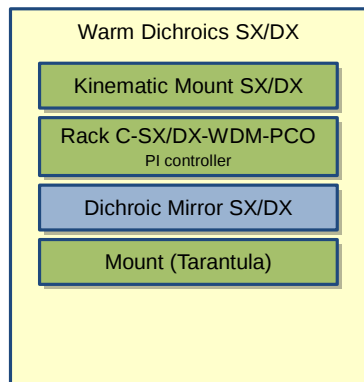
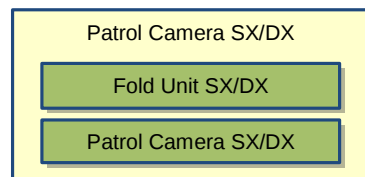
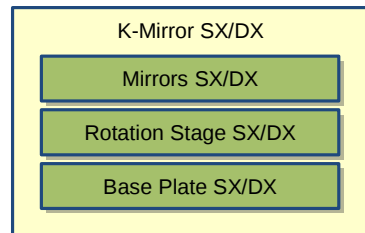
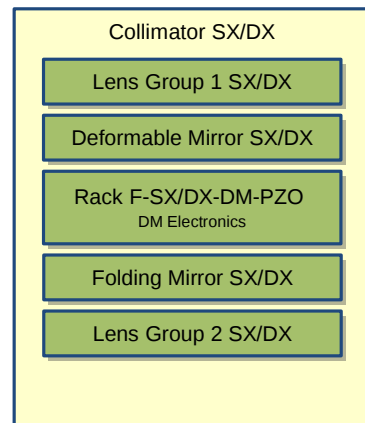
Subsystem

MCAO Systems

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High Layer Wavefront Control System (MHWS) SX/DX



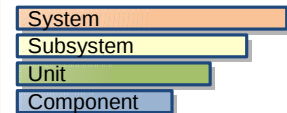
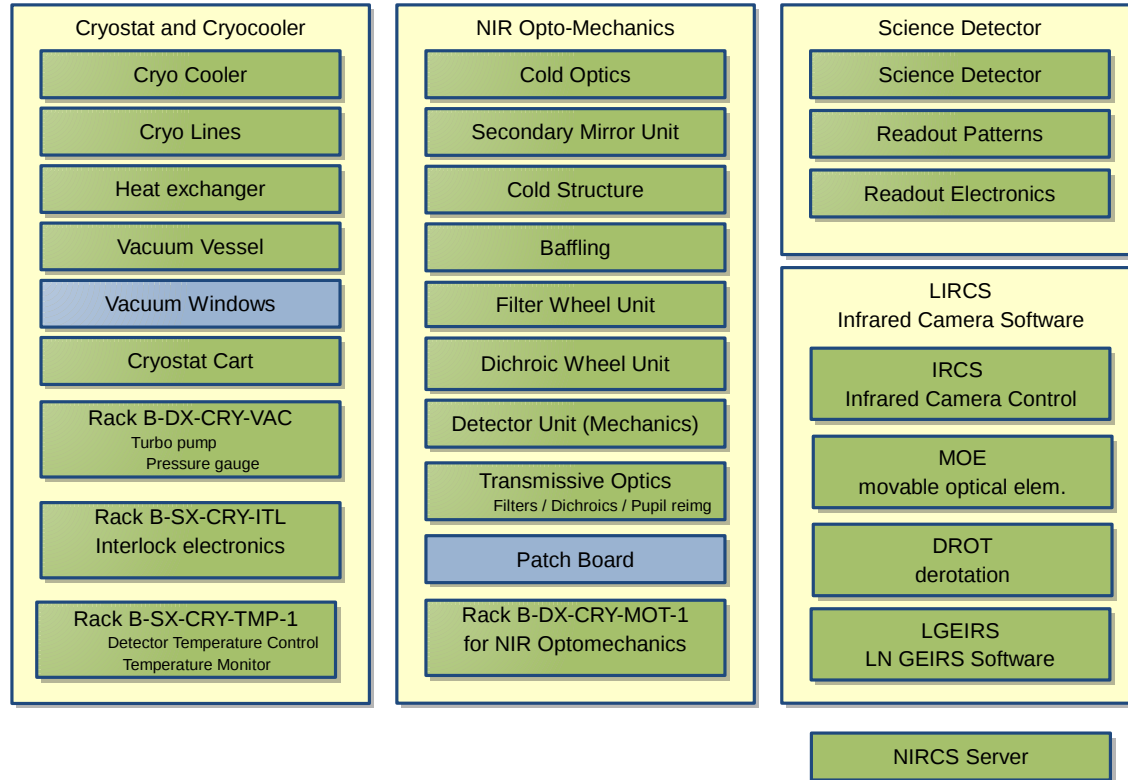
Ground Layer Wavefront Control System (GWS) SX/DX

NIR Camera System

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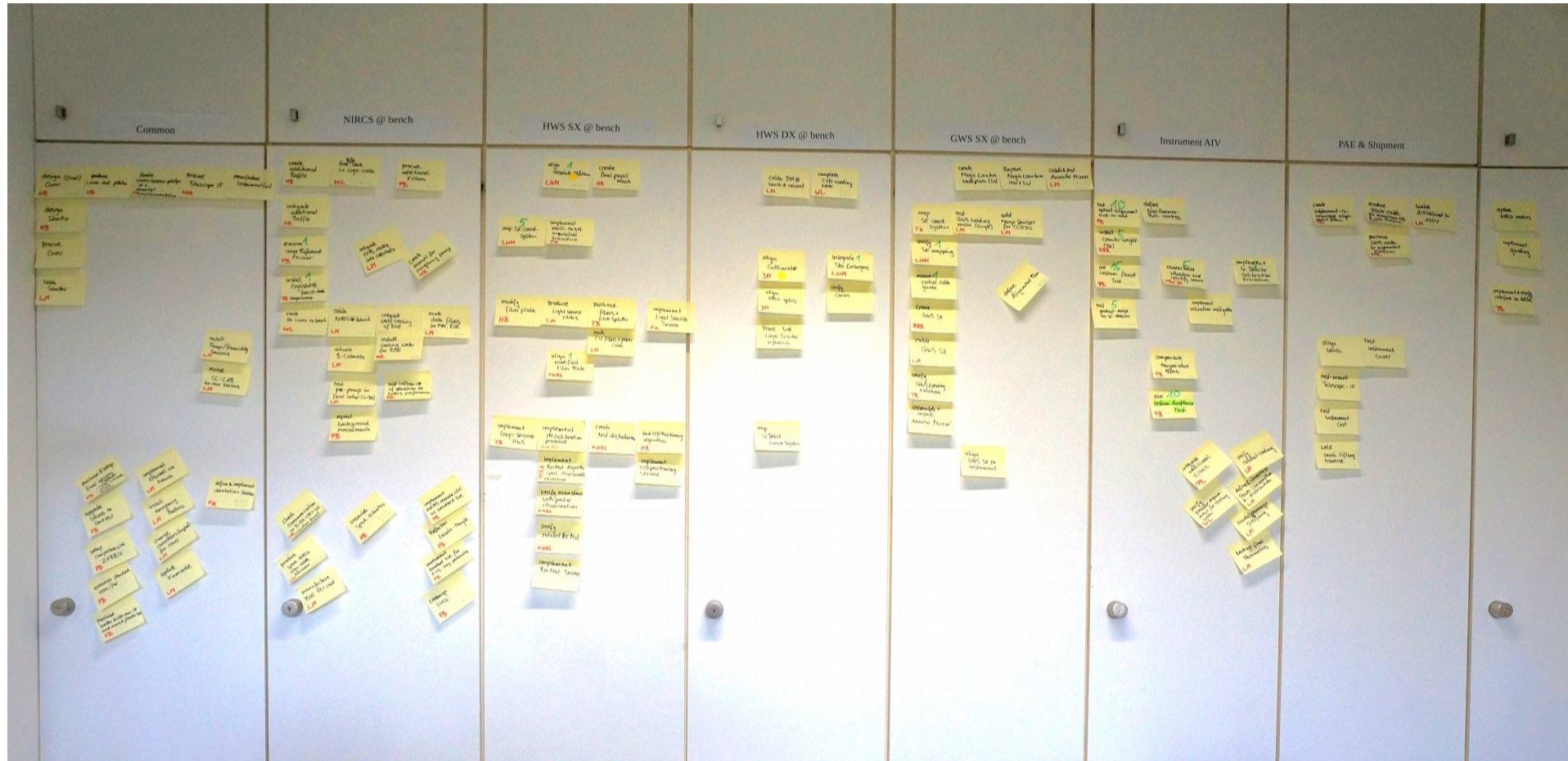


NIR Camera System (NIRCS)



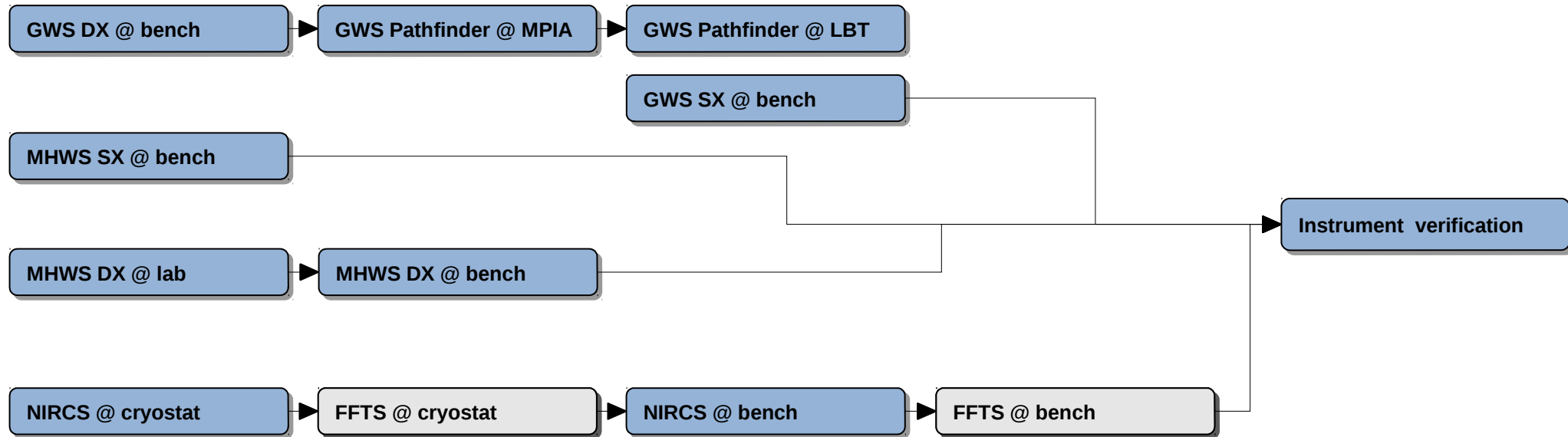
Tickets

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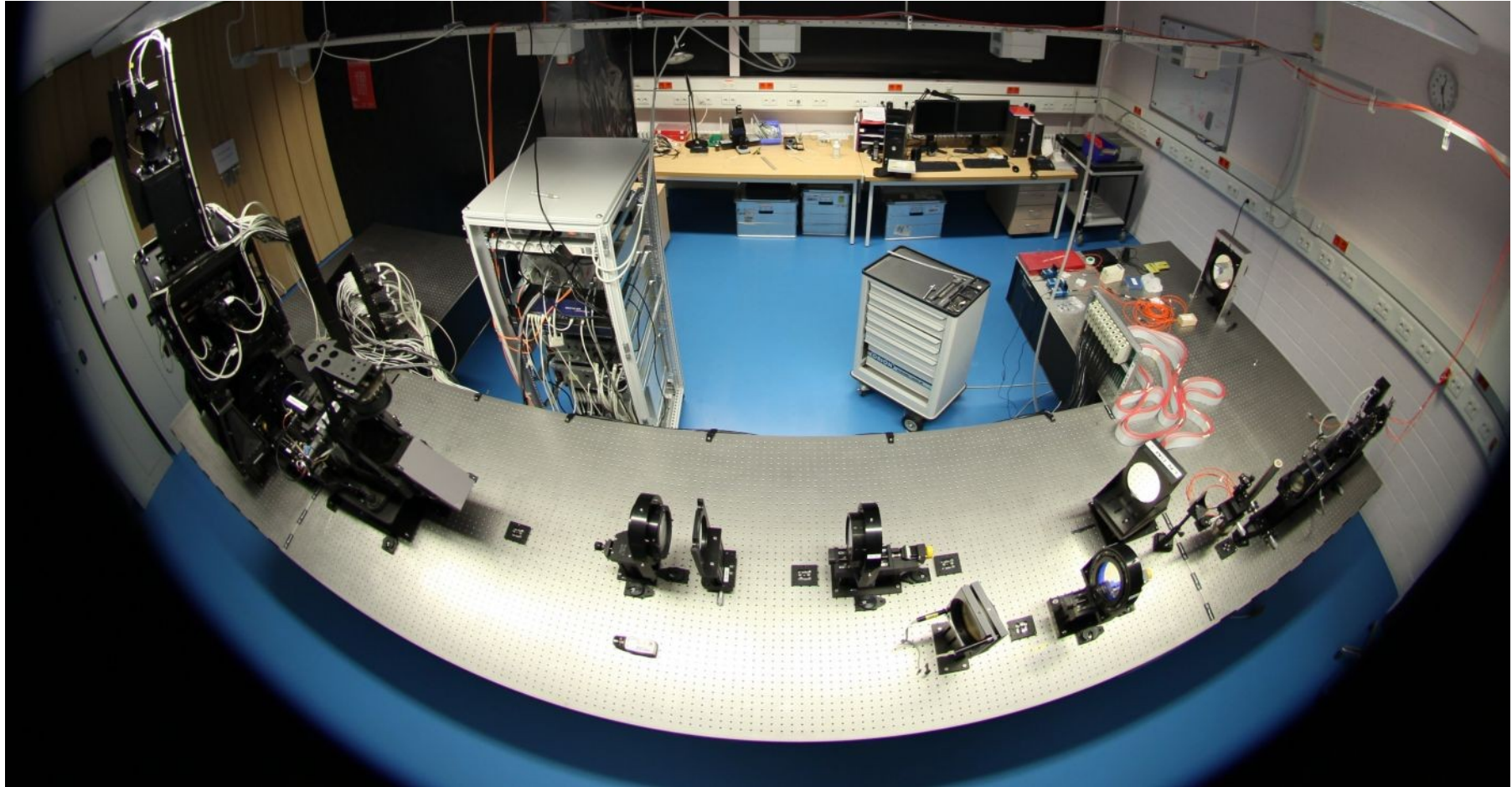
System AIV Phases

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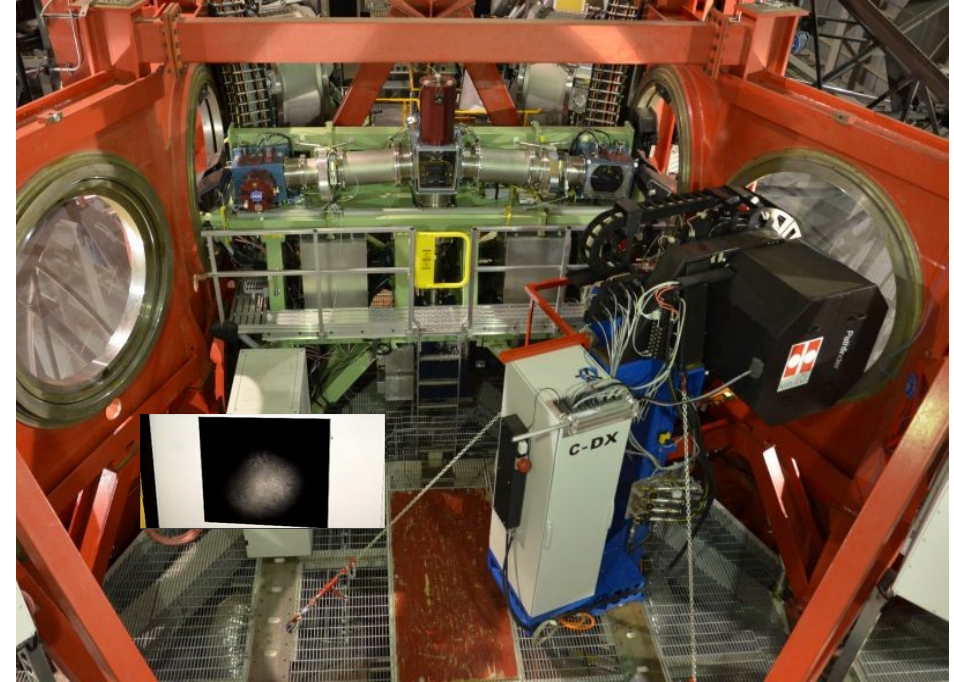
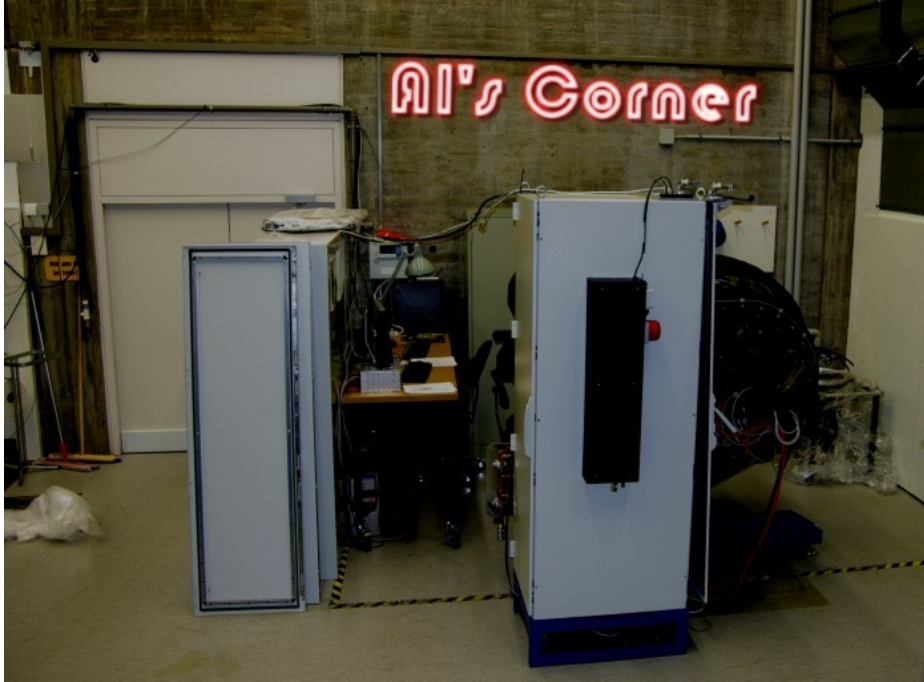
MHWS DX @ Lab

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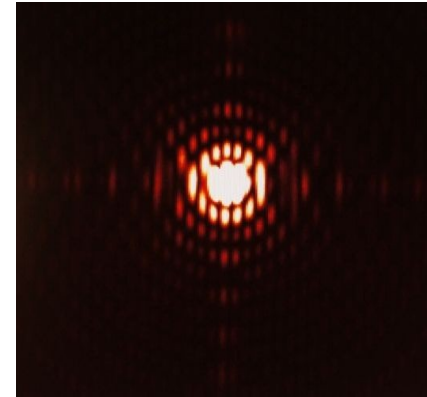
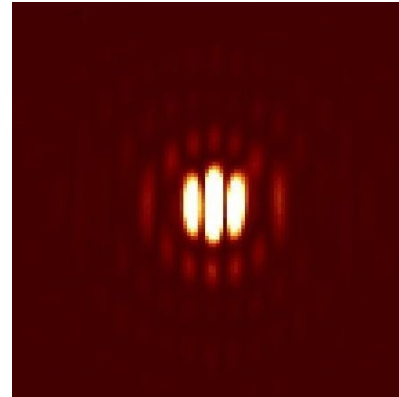
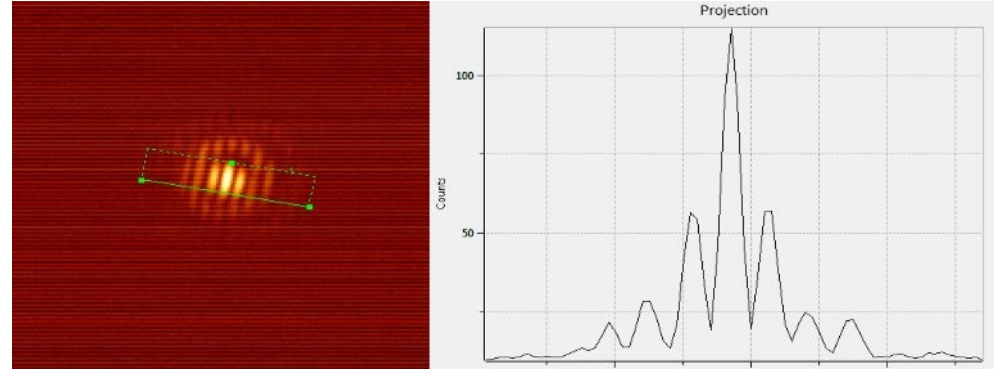
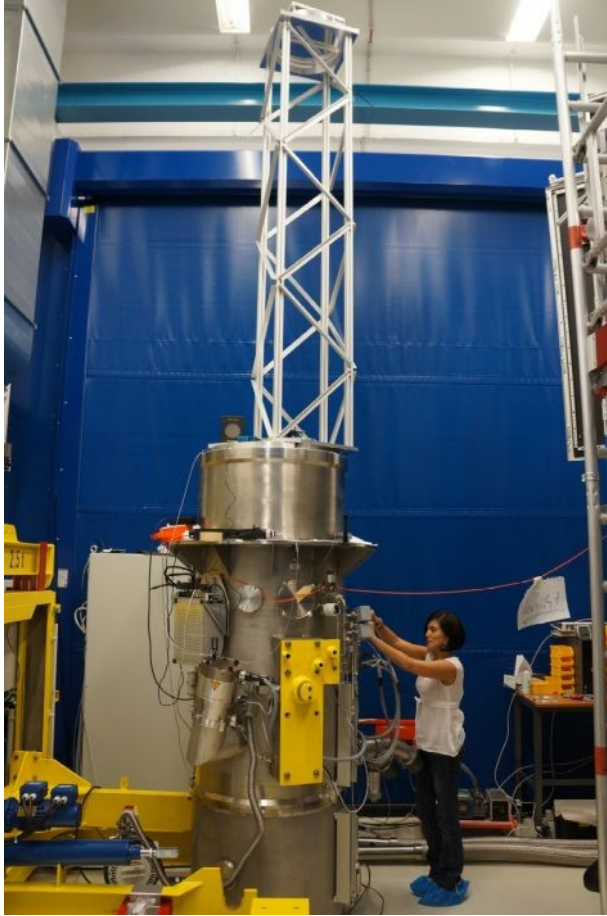
GWS Pathfinder @ MPIA & LBT

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NIRCS @ Cryostat

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Flexure Test

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Flexure Test

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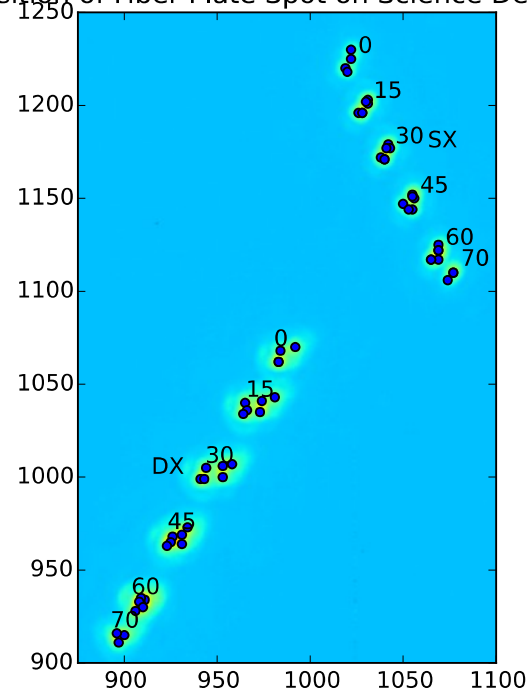


Flexure Test

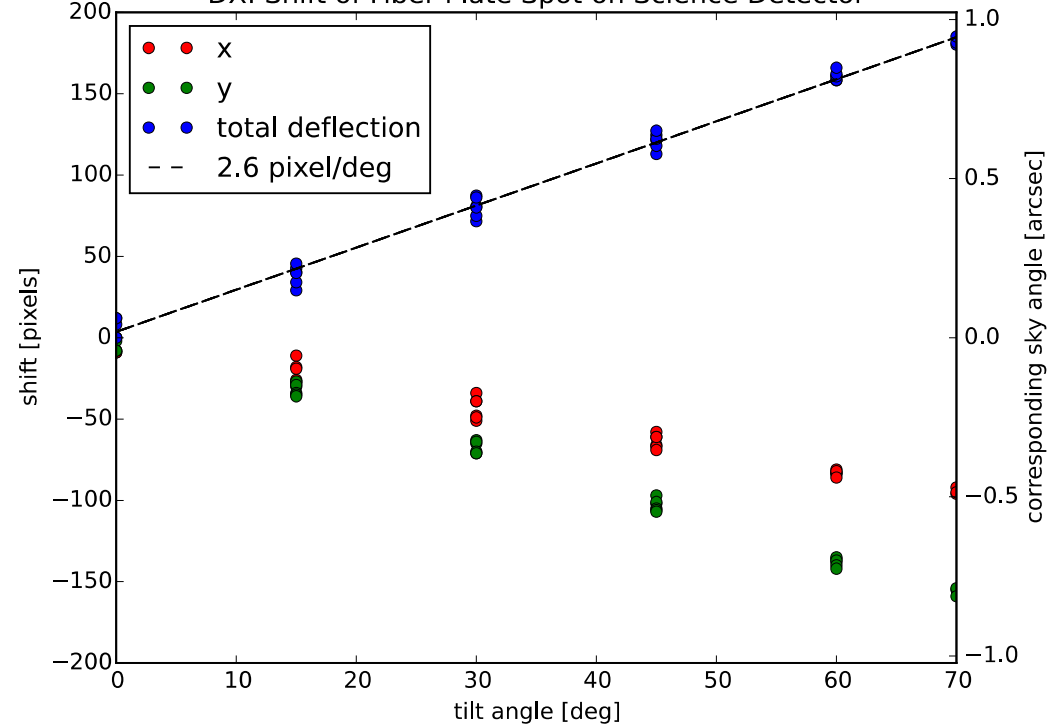
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Position of Fiber Plate Spot on Science Detector

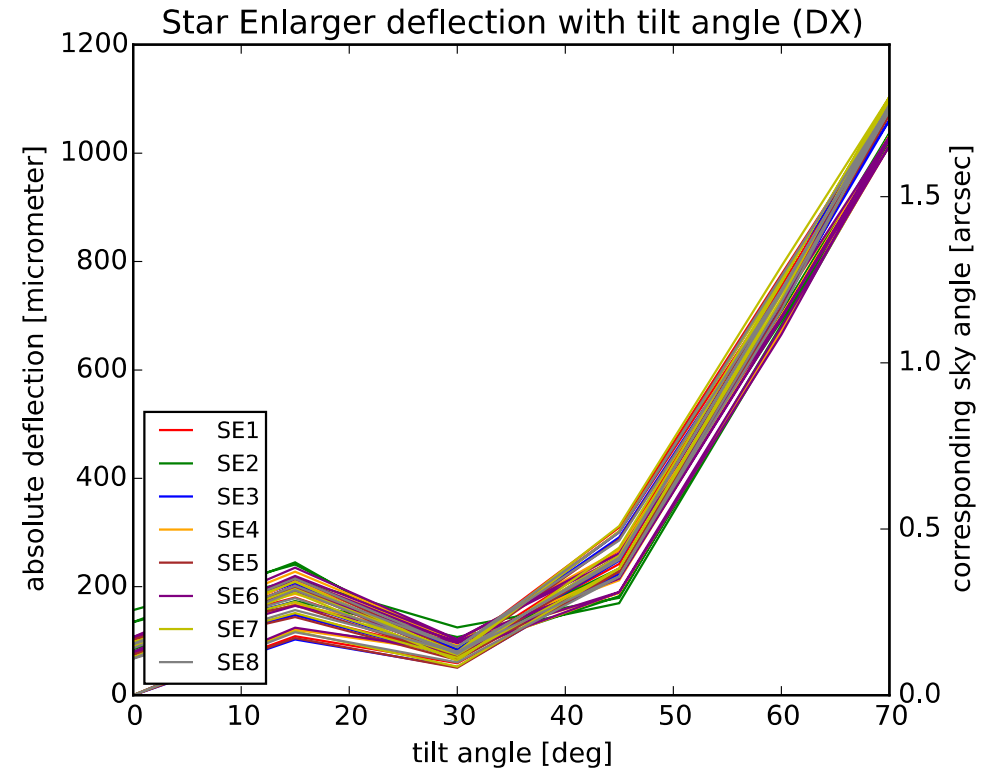
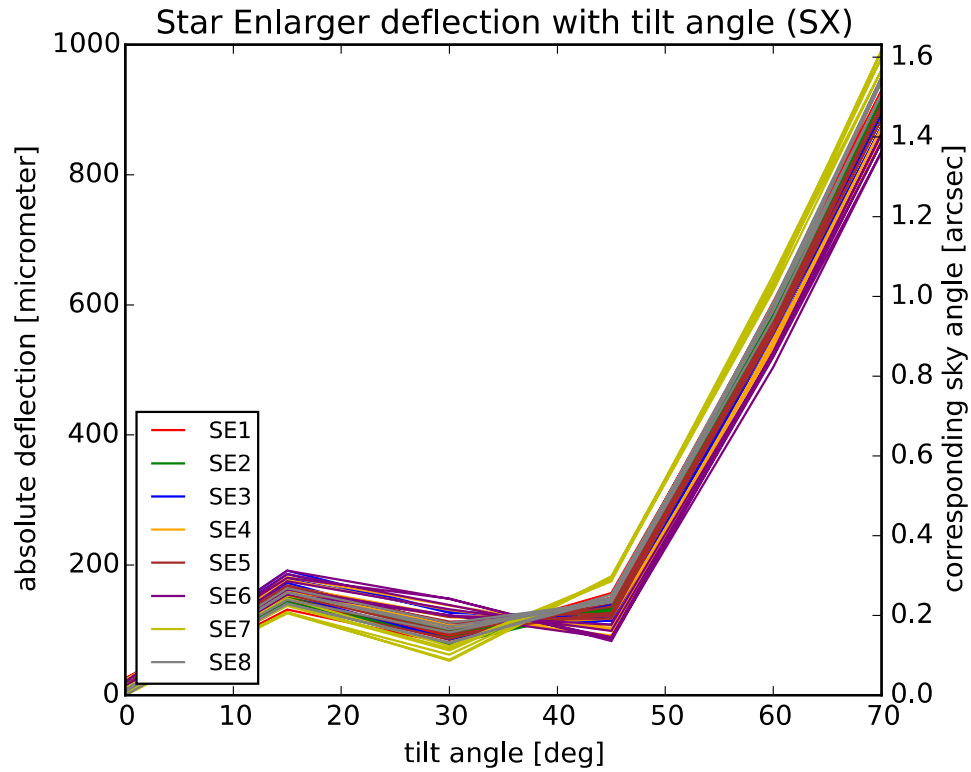


DX: Shift of Fiber Plate Spot on Science Detector



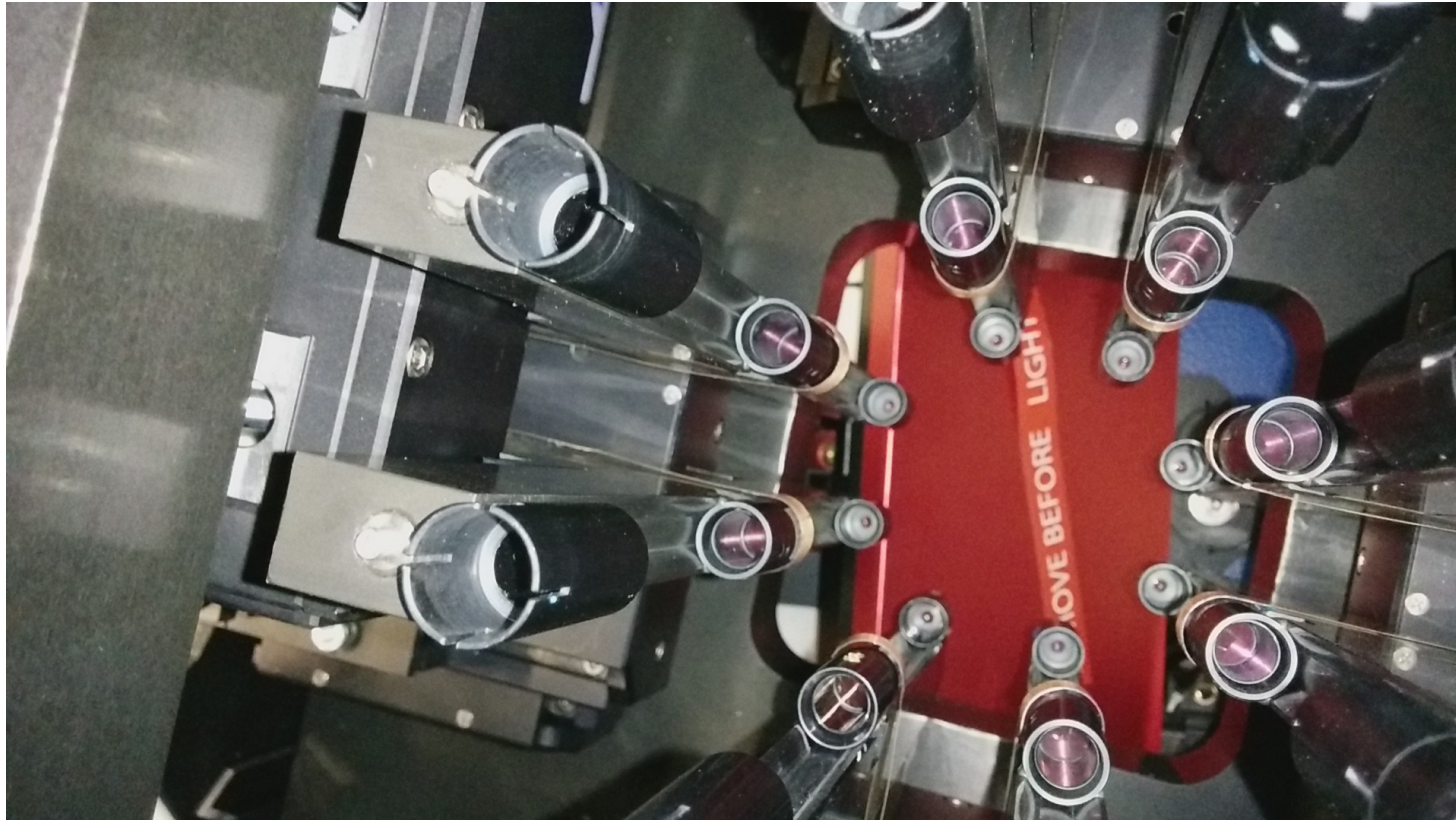
Flexure Test

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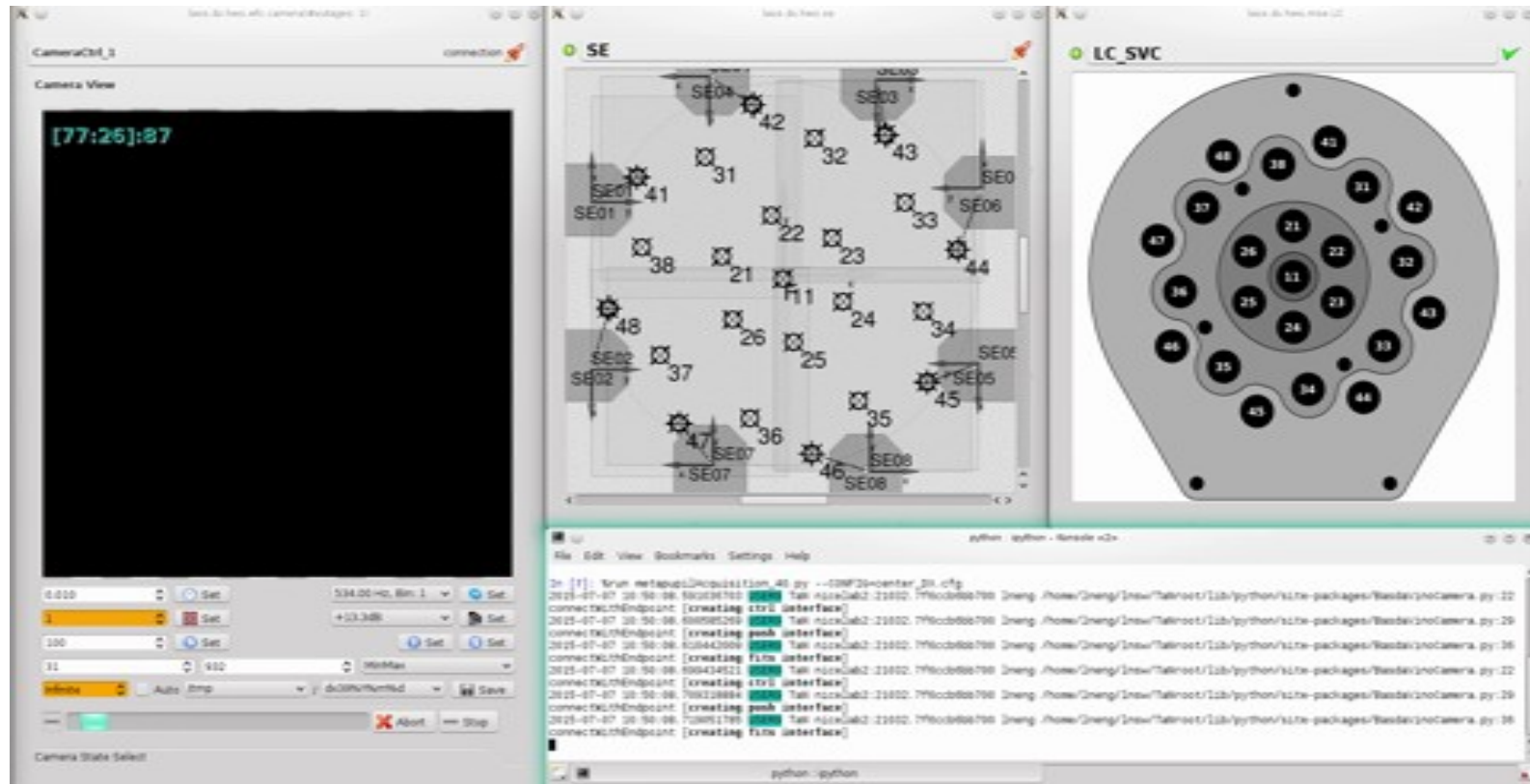
Reference Star Acquisition

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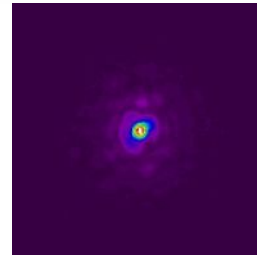
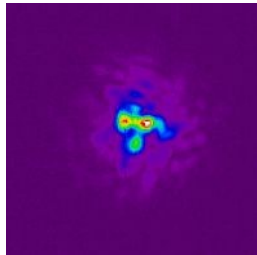
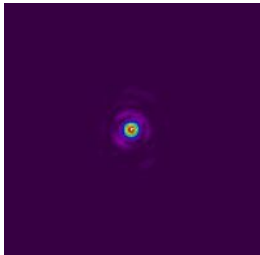
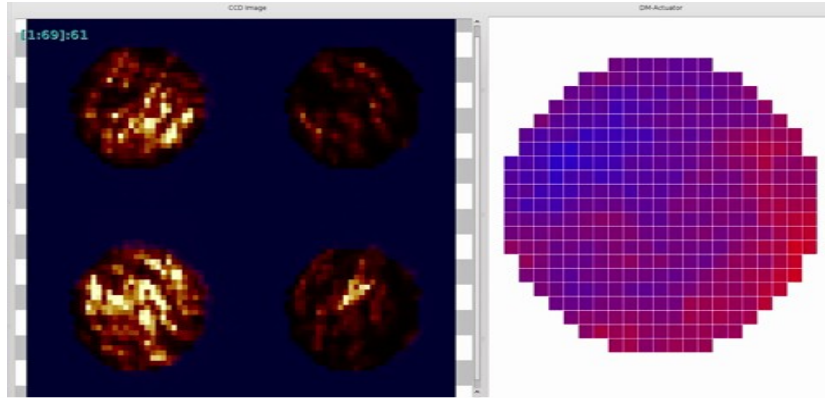
Reference Star Acquisition

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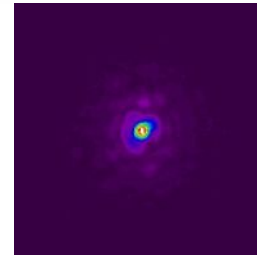
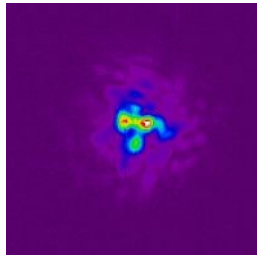
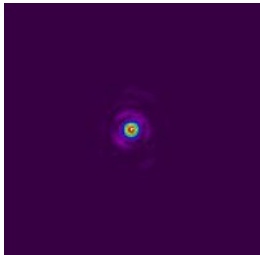
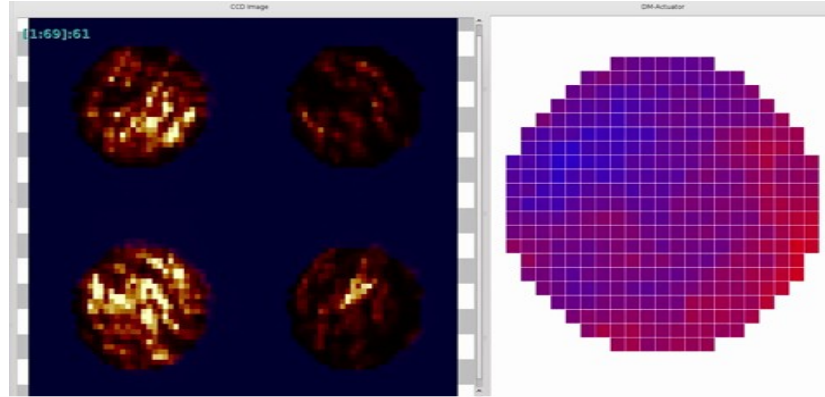
Closed Loop Operation

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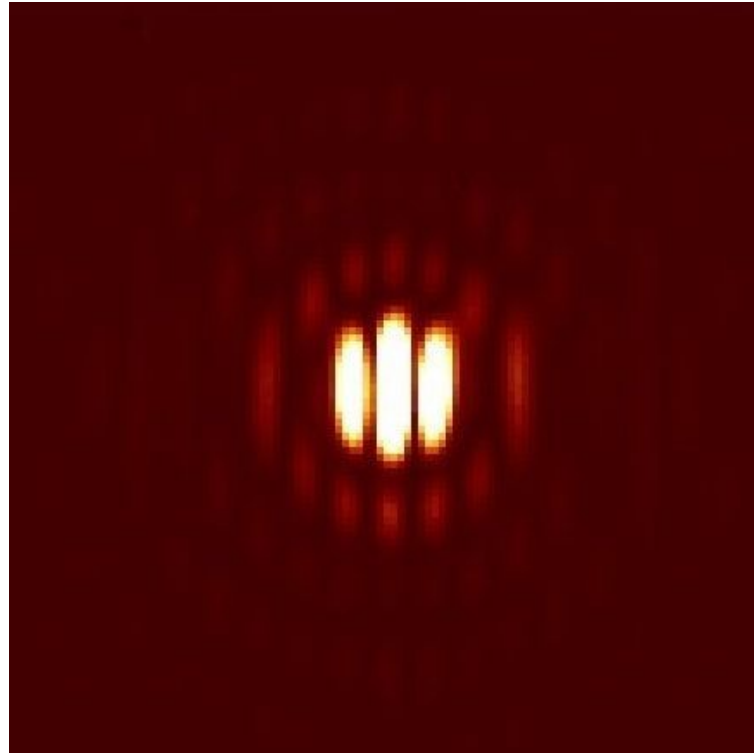
Closed Loop Operation

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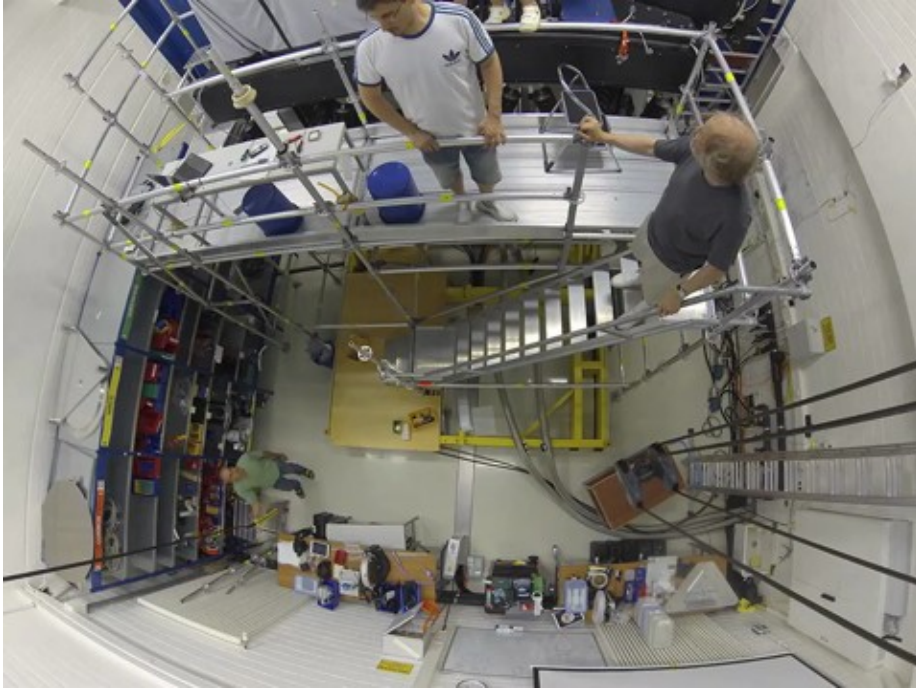
What LN cannot do for now

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Packing / Shipping

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Installation at the LBT

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I1	Dismantling of Pathfinder	Jun. 15
I2	Receipt & Bench Installation dry run	Nov. 15
I3	GWS Alignment / Computing Environment	Jan. 16
I4	Bench & Cryostat Integration	Feb. 16
I5	Warm Optics SX Alignment	Mar. 16
I6	HWS Sensor SX Alignment & loop SX	Apr. 16
I7	Warm Optics DX Alignment	May 16
I8	HWS Sensor DX Alignment & loop DX	May 16
I9	Annular Mirror Alignment	Jun. 16
I10	Cryostat + Instrument Verification	Jun. 16
I11	Installation at Instrument Platform	Jul. 16

