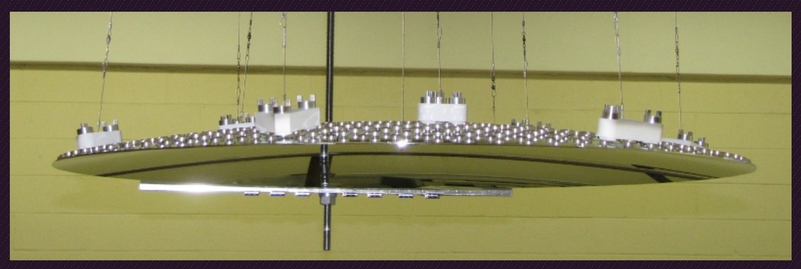
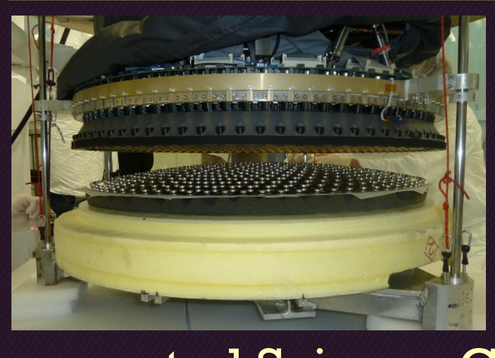
MagAO System Basics

Adaptive Secondary Mirror

Spatial Frequencies Down to ~29cm





6.5m primary

85.1cm ASM

585 actuators

24cm pitch

Pyramid Wavefront Sensor

Faint Guide Star Science

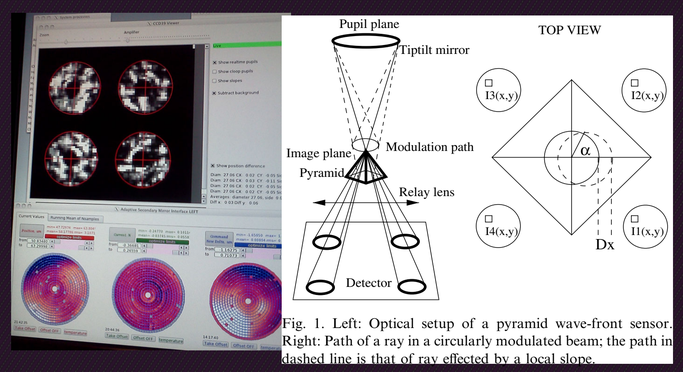


Fig. 1. Left: Optical setup of a pyramid wave-front sensor. Right: Path of a ray in a circularly modulated beam; the path in dashed line is that of ray effected by a local slope.

Commissioning 1: Nov-Dec 2012

Commissioning 2: March-April 2013

Available for open use 2014A

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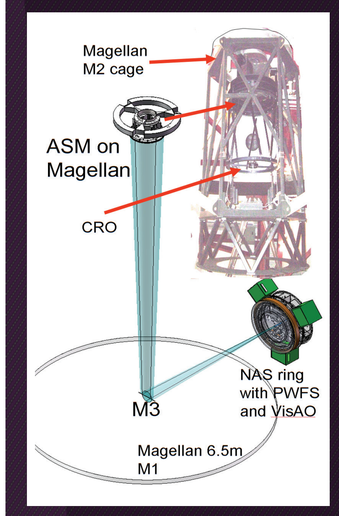
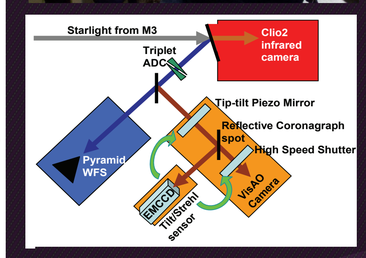
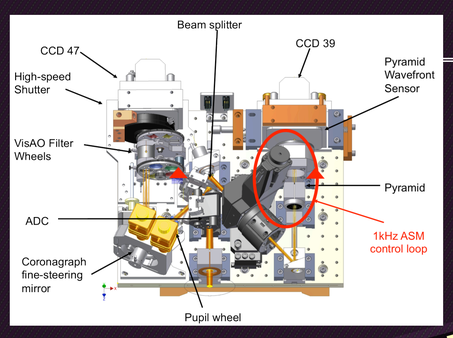
Comounted Science Cameras

Simultaneous Visible and NIR Imaging





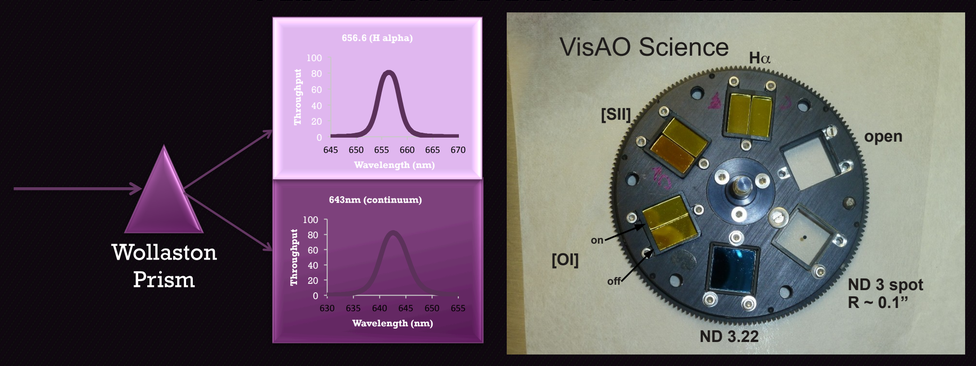
AO Correction at Visible Wavelengths



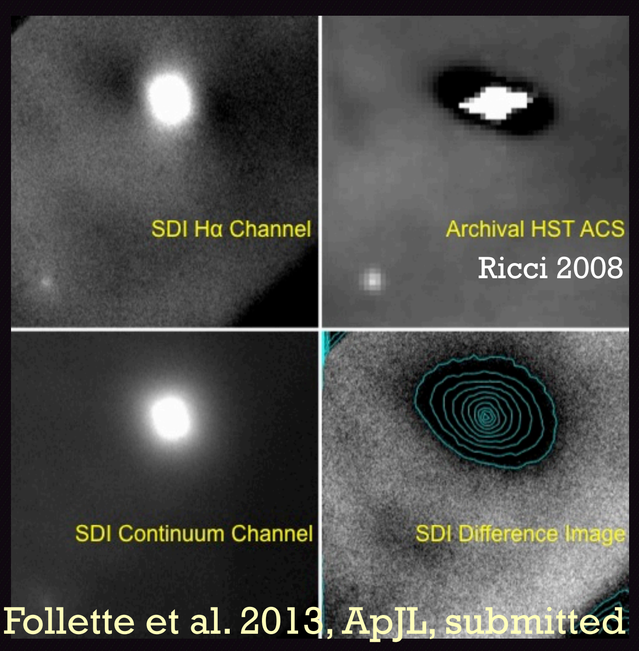
	Bin 1	Bin 2	Bin 3	Bin 4	Bin 5
Maximum number of controlled KL modes	378	120	66	28	21
Maximum Guide Star R magnitude	8.4	12.7	14.2	15.6	16.0

VisAO SDI Early Science Results

VisAO SDI Mode Basics

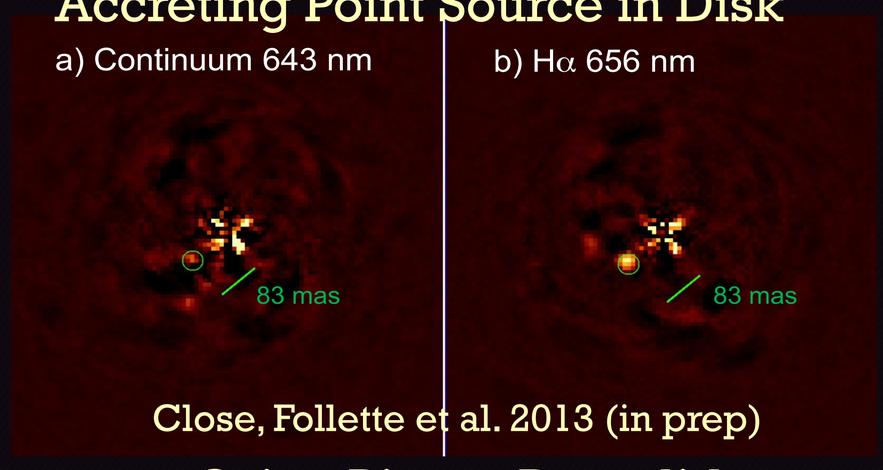


Orion Silhouette Disk

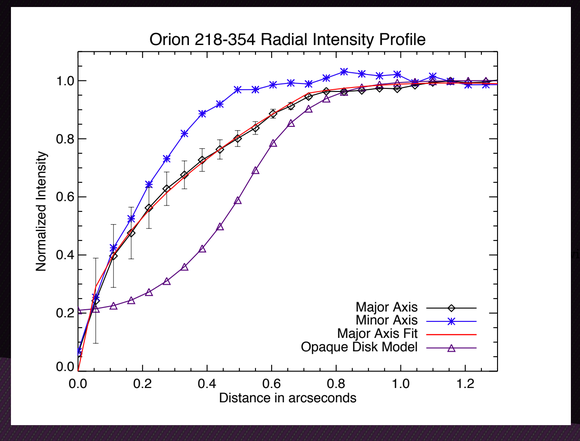


Follette et al. 2013, ApJL, submitted

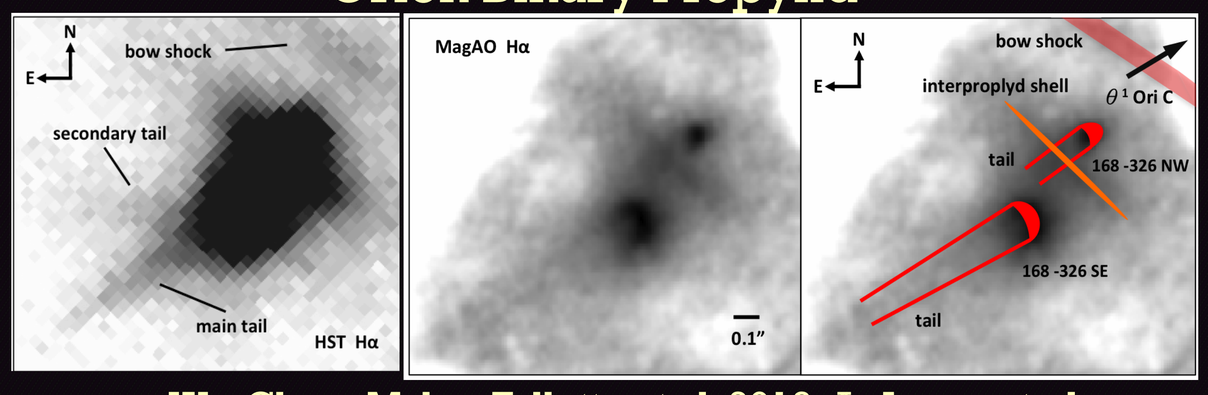
Accreting Point Source in Disk



Close, Follette et al. 2013 (in prep)



Orion Binary Propylid



Wu, Close, Males, Follette et al. 2013, ApJ, accepted

MagAO

Early Visible AO Science Results from Magellan: MagAO’s Simultaneous Differential Imaging Mode

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