

GNAO Workshop

We are now preparing to solicit input on what a next-generation AO system on Gemini-N might look like, and what scientific opportunities it will enable. This workshop, which is scheduled for 19-21 June 2012, will bring together astronomers and instrument specialists from all Gemini communities, as well as other international scientists who are using AO to perform or enhance their science.

This workshop is the first stage in a process to identify a next generation AO system for Gemini North. Its general goal is to determine a broad range of potential science topics and associated AO requirements. The results from this meeting will serve as input to the Gemini Science/Users Meeting in July and help the Gemini Science and Technology Advisory Committee (STAC) to identify and prioritize future instrumentation for Gemini.

Workshop Goals

- Identify science topics for possible next generation AO facilities at Gemini N.
- Characterize the AO performances necessary to meet the science goals.
- Examples (not limited to)
 - Wide field (~ 10 arcminutes) uniform PSFs across the field with a FWHM of ~ 0.2 arcseconds.
 - Targeted high-order correction (diffraction-limited) distributed across the field, e.g. ~ 10 targets.
 - Medium field (~ 1 arcminute) with uniform high-order diffraction-limited performance across the field.
 - Narrow field ($\sim 10'' - 20''$) high-order diffraction-limited (Strehl ratios ranging from 30% - 90% - depending on wavelength) ($< 5''$) high-contrast ($\sim 10^8$), high-order systems.
 - Increased sky coverage
 - Resolution dependent (diffraction-limited or super-seeing?)
 - Observing Wavelengths
 - MIR \rightarrow visible wavelengths?
- Identify science instrumentation

A Roadmap for the Development of Astronomical Adaptive Optics, 2008

Science metrics for US 8-10m AO facilities

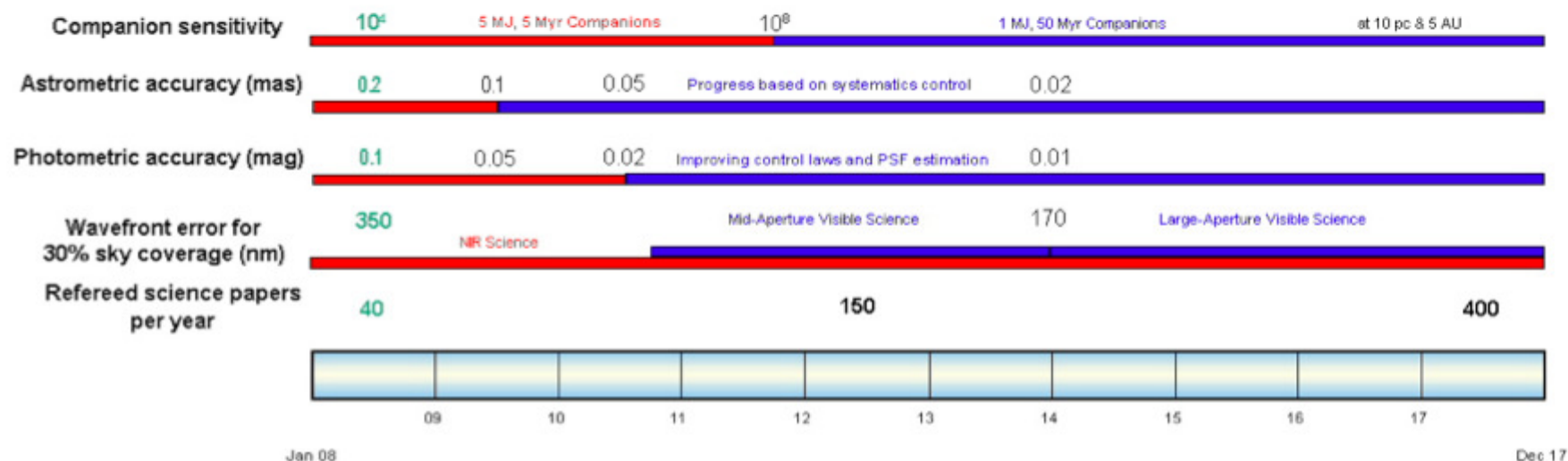


Figure 4. Science metrics for the US AO community, assuming full funding of proposed Roadmap investments. Values associated with timeline 2008 represent the approximate state-of-the-art for AO science performance today.