

Aim at 3-6 pages per subtopic (exact page limits not crucial)

1. Title of Science Sub-Topic

2. List of people who contributed to this science topic discussion, with their institutions

3. Scientific Background (potentially one Figure in this section)

What is the scientific issue, and why is it important?

High level objectives and goals

How does AO help? How would NGAO help? (brief qualitative discussion)

How do ground-based optical-infrared observations complement space-based observations and information from other wavelengths?

4. Proposed observations and targets

This is the most important section

Include at least one Figure

5. Comparison of NGAO w/ current LGS AO

Preferably quantitative comparison, but at least a qualitative discussion

Include Figures here if available

6. AO and instrument requirements

Essential

Desirable but not absolutely essential

For instrument requirements:

What can be achieved with OSIRIS plus a modest upgrade to NIRC2?

What could be achieved with brand new instruments (e.g. super-NIRC2, super-OSIRIS, visible imager, visible IFU, near-IR deployable IFUs)

7. Program Summary (text and/or tables):

Intrinsic brightness of targets

Specific observables (including images or spectra, what wavelength bands, etc)

Sample targets

Target density on sky, if more than ~ 1 target per few square arc minutes

Observing requirements:

- What spatial resolution is needed

- What spectral resolution is needed

- What photometric or astrometric accuracy is needed

- What SNR is needed

- Estimate of exposure time per target

- Special requirements on tip-tilt stars

- Required PSF stability

- Total number of nights needed to complete observing program