Request For Proposals
for the
NICI Planet Finding Campaign
Addendum #4

Issued: 15 October 2005

Purpose of RFP Addendum #4. Answer various questions about NICI filters, coronagraphic masks, and WFS performance.

1. Teams are free to consider using alternative filters for the campaign. NICI filters are round, 29 mm in diameter, and 5 mm or less thick. Filters should have excellent ($<10^{-4}$) out-of-band blocking from 0.5 to 5.6 μm. Angle of incidence is 0 degrees, and the operating temperature is 65 K. Clear aperture is 24 mm in diameter.

2. The coronagraphic masks that will be delivered with the instrument are not apodized and not transmissive. Mask sizes are listed on the NICI web pages. Teams are free to consider using alternative coronagraphic mask designs. Coronagraphic forcal plane masks are outside the dewar, and can be interchanged without warming and opening the dewar. Focal plane masks are made on calcium fluoride blanks 35 mm in diameter and 5 mm thick. Pupil masks are not apodized, and are located inside the dewar.

3. The baseline contrast ratio estimate includes the gains anticipated using the channel differencing technique.

4. The optical AO WFS uses avalanche photo diodes that are sensitive to a broad spectrum. The AO WFS comes after a dichroic that sends the optical photons to the AO WFS and the IR photons to the science camera. The dichroic transmission falls off beyond ~0.8 μm. Because the APDs are very sensitive, neutral density or narrow-band filters must be used for brighter targets (you do not need to specify this in your proposal—the observer will use the appropriate filters). The baseline performance is specified for guide stars of a particular V magnitude, but NICI does not use a V filter in the AO WFS. For most guide stars, the peak flux and APD response will be in the R band, and you may adopt the R magnitude instead of the V magnitude for estimating AO performance.