

Workshop

Imaging of Stellar Surfaces

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Title:

Stellar Imaging with the PALANTIR Upgrade at the Navy Precision Optical Interferometer

Abstract:

Lowell Observatory operates the Navy Precision Optical Interferometer (NPOI), and owns & operates the Discovery Channel Telescope (DCT); this unique combination of facilities is being leveraged by Lowell to develop a robust program of imaging faint, complex objects. NPOI is a six-beam facility currently operational on-sky in the visible with baselines between 8 and 100 meters, conducting programs of astronomical research and imaging technology development. Upgrades include AO-assisted 1.0-m apertures feeding each beam line, new visible and near-infrared instrumentation on the back end, and infrastructure supporting baseline-wavelength bootstrapping which takes advantage of the spectral and morphological features of resolved stellar systems. First light for the large, relocatable apertures is expected in Fall of 2018 and includes baselines to 432-m. A complementary program of visible speckle and aperture masked imaging at Lowell's 4.3-m DCT, for constraining the low-spatial frequency imaging information, will also be outlined, including pilot results.