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Last Edit: 7/22/2003

Title: Differential Phase Interferometry with the Keck Telescopes

We provide an update on the development of the Differential Phase (DP) mode for the Keck Interferometer. Two color DP measurements are a sensitive astrophysical probe, especially for planet detection from ground based interferometers. For instance 0.1 mrad (equivalent 50-100 pm) phase measurements allow for the detection of the "roaster" class of Jupiter-mass planets orbiting close (0.05 AU) to the parent star. At JPL we are developing and testing means to accomplish this level of phase detection, which will be implemented at Keck. First observations start in mid-2004. We will provide a synopsis of the technique and its challenge instrument update and results from any preliminary experiments at Keck.