



The FIRST instrument to detect extra-solar planets at visible to near-infrared wavelengths from the ground

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We present a very high contrast imaging instrument FIRST (Fibered Imager for Single Telescope) to directly detect extra-solar planets around nearby stars at visible to near-infrared wavelengths from the ground. FIRST combines the techniques used for aperture masking and single-mode fiber long-baseline interferometry, which enable us to remove atmospheric turbulence effects and redundant noise almost perfectly while keeping the whole pupil and therefore using all the photons collected by the telescope. With FIRST, a very high angular resolution and high dynamic range up to 10^6 can be achieved, and we will be able to characterize spectral features in hot exo-jupiter atmospheres. Over a hundred of the known exoplanets can be surveyed. We describe the present development status of this instrument, and the preliminary experimental results in the lab.