

SPHERE: a Planet Finder Instrument for the VLT

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Abstract

SPHERE (Spectro-Polarimetric High-contrast Exoplanet Research in Europe) is a second-generation instrument for the ESO Very Large Telescope (VLT) dedicated to the direct detection and spectral characterization of giant extra-solar planets, which is one of the most exciting but also one of the most challenging areas in modern astronomy due to the very large contrast between the host star and the planet at very small angular separations. SPHERE combines an extreme adaptive optics system, various coronagraphic devices and a suite of focal instruments providing imaging, integral field spectroscopy and polarimetry capabilities in the visible and near-infrared spectral ranges. After several years of development, SPHERE is now in its final characterization stage, for a first light at the VLT by early 2013. We will give an overview of the science objectives and instrument design and review the overall performance of the instrument.

