

Shaping the Italian contribution to HWO



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PCS at ELT as a precursor for HWO

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The Planetary Camera and Spectrograph (PCS) for the Extremely Large Telescope (ELT) is a new instrument proposed for the direct detection and characterization of exoplanets in the neighbourhood of the Sun. This goal is achieved by a combination of eXtreme Adaptive Optics (XAO), coronagraphy and spectroscopy. PCS will allow to gather both images and high-resolution spectra, allowing the atmospheric characterization of the detected planets, including the search for biosignatures in the most favourable cases.

Italian contribution is relevant both on scientific and technological aspects.

While we are still in a preliminary phase (a three years research & development phase before Phase A is ongoing), we may expect that PCS will be able to directly detect rocky planets around the closest M dwarfs and to characterize their atmospheres, few years before HWO.

The number of accessible low-mass planets is expected to be more limited than HWO, but the similar science case would make the synergies between the two projects very fruitful in several aspects.

Author: DESIDERA, Silvano (Istituto Nazionale di Astrofisica (INAF))

Presenter: DESIDERA, Silvano (Istituto Nazionale di Astrofisica (INAF))

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