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Optical Concepts for Infrared Interferometry Missions

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Abstract

ESA has identified an infrared interferometer observatory, as a Cornerstone mission, open to the wide scientific community with the main aim of detecting and characterising Earth like planets around other stars.

A baseline optical design of a multi-telescope nulling interferometer has been established which meets these requirements

Work is still progressing on identifying the location of this observatory in the solar system, to provide sufficient signal to noise in the presence of the infrared emission from the local zodiacal dust.

For the implementation of the interferometer one major issue is whether to implement the interferometer as single spacecraft or as a number of separate free-flying elements.

Results from recent analysis on establishing a baseline mission will be presented.