

# A new golden age for the proper motion anomaly technique with Gaia-NIR

*Wednesday, 17 January 2024 16:05 (20 minutes)*

In the last couple of years, high contrast imaging observations are changing their focus from broad blind surveys (e.g. SHINE SPHERE-GTO; Desidera et al. 2021) to observations of pre-selected targets exploiting the presence of astrometric signatures such as the Gaia-Hipparcos Proper Motion Anomaly (PMA). This leads to an increase of detection efficiency by about an order of magnitude (Bonavita et al. 2022) and to detection of new benchmarks planetary companions such as AF Lep b (Mesa et al. 2023). Gaia NIR would allow to extend the PMA technique both in time baseline and sensitivity, allowing to greatly expand the completeness of our view of the outer parts of planetary systems.

Synergies with the direct imaging techniques will also be further enhanced by the instrumentation expected to be available at that time.

**Primary author:** Dr BARBATO, Domenico (INAF-OAPD)

**Co-authors:** Mr RUGGERI, Alessandro (INAF-OAPD); Prof. ZURLO, Alice (Univ. Diego Portales, Santiago, Chile); Dr MESA, Dino (INAF-OAPD); Dr RIGLIACO, Elisabetta (INAF-OAPD); Dr BONAVITA, Mariangela (Edinburgh, UK); Dr GRATTON, Raffaele (INAF-OAPD); DESIDERA, Silvano (Istituto Nazionale di Astrofisica (INAF)); Dr D'ORAZI, Valentina (INAF-OAPD)

**Presenter:** Dr BARBATO, Domenico (INAF-OAPD)