



## Towards High-precision Astrometry: Differential Delay Lines for PRIMA at VLTI

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Deriving all orbital parameters and exact masses of extrasolar planets requires at least 2-dimensional information on either the positions or motions of the planet directly (currently out of reach) or, indirectly, of the host star. The latter can be achieved with high-precision astrometry at the  $10\ \mu\text{arcsec}$  level, especially when combined with radial velocity measurements. To achieve this goal, a consortium with partners from Germany, Netherlands, and Switzerland, in agreement with ESO, will enhance the PRIMA system at the VLTI with Differential Delay Lines (DDLs). The purpose of the DDLs in differential (phase-referenced) astrometry is to separate the large OPD correction terms which are common for target and reference star (to be corrected with the main delay lines) and the small differential terms (to be corrected under vacuum with the smaller and more precise DDLs). We will give an overview on the project, which is now in the preliminary design phase, and present the technical baseline design, as well as outline the scientific research plan.