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ERIS: the next big step after SPHERE for high-angular resolution at the VLT

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Beyond SPHERE, currently in operation on Melipal-UT3, the big next step in high-angular resolution astronomy at the VLT consists of the installation of the Adaptive Optics Facility on UT4-Yepun and its dedicated collection of wavefront sensors and diffraction limited instruments. These are (i) the laser-oriented AO systems, GRAAL and GALACSI, operating at the opposite Nasmyth ports of UT4 and dedicated to the instruments HAWK-I and MUSE; (ii) the so-called Enhanced Resolution Imager and Spectrograph (ERIS) operating at the Cassegrain focus. ERIS represents the next development in the realm of high-angular resolution at the VLT. Like SPHERE, it will provide both imaging and integral field spectroscopy up to K-band with high-order adaptive optics correction. Moreover ERIS will allow extending the AO correction up to the M-band. Such high-order correction will be provided both with laser and natural guide stars. Among the scientific goals of ERIS, the more relevant are the systematic study of the regions surrounding the galactic center and the detection of extrasolar planets by direct imaging beyond the K-band.
I will review the status of the ERIS project, from its scientific top level requirements to its adaptive optics wavefront sensors technologies, entirely developed in Arcetri.

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