

# Großes Physikalisches Kolloquium an der Universität zu Köln



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## **Astronomy at Highest Angular Resolution – the GRAVITY Revolution in Optical/IR Interferometry**

3.12.2024  
16<sup>30</sup> Uhr  
HS III

The GRAVITY experiment at the European Very Large Telescope Interferometer has transformed high angular resolution astronomy, now routinely offering milli-arcsecond resolution imaging, a sensitivity increase by factor thousands over previous interferometers, 30-100 micro-arcsecond astrometry, and micro-arcsecond differential spectro-astrometry. Our presentation takes us from exoplanets all the way to distant quasars, with special focus on the Galactic Center. The ongoing instrument upgrade is about to boost interferometry to the next level, then opening up the extragalactic sky, providing ever higher contrast for observations of exoplanets and more sensitive observations of the Galactic Center. We will present first results and discuss the discovery space opening up, e.g. the detailed view on Black Holes at cosmic dawn, the detection and characterization of exoplanets and their atmospheres, and the spin of the Galactic Center black hole.

