

CALL FOR GRAVITY WIDE SCIENCE VERIFICATION PROPOSALS

Deadline for SV proposals: 25 March 2022, 12:00 CET

[GRAVITY](#)¹ is the K-band spectrograph (R~22, 500 or 4000) and fringe tracker combining 4 VLTI telescopes (Auxiliary telescopes -ATs-, or Unit telescopes -UTs-). GRAVITY allows sub-milliarcsecond angular resolution on object fitting a field-of-view limited by the diffraction limit of the telescope (~250mas on ATs, ~50mas on UTs.).

Although in operation since 2015, its capabilities are being upgraded under the [GRAVITY+ project](#)². The first step of these improvements is the extension of the off-axis fringe tracking capabilities. Off-axis fringe tracking is essential to observation faint object which require exposure times beyond what the atmosphere's turbulence allows. Up to now, off-axis fringe tracking was feasible only if the bright reference star could be found a few arcseconds away. **The new GRAVITY Wide mode extends the patrol field up to 30", extending the number of targets observable with GRAVITY.** Note that only differential quantities can be derived, due to non-calibratable atmospheric effects. The performances are detailed on the [dedicated SV page](#)³.

Proposals will be reviewed by an internal panel and allocated time based on scientific merit and feasibility, as well as demonstrated ability of the Principal Investigators to deliver results on a timely basis.

The observations will be conducted during two nights in June 2022 in Service Mode by a dedicated team of ESO astronomers: on night on ATs, one night in UTs, in both case with interferometric baselines up to 130m.

The [GRAVITY Wide SV team](#) will be able to assist the successful PIs in the preparation and optimization of the OBs on a best effort basis.

The GRAVITY data reduction pipeline will be available for reduction of the SV data. Proposers are reminded that all SV data are made public worldwide immediately after passing the usual quality control checks.

Please read the GRAVITY documentation carefully and use the exposure time calculator to estimate the exposure times. The SV is organised following the usual [ESO guidelines](#)⁴.

Please use the [ESO Phase 1 system](#)⁵ for submissions of GRAVITY Wide Science Verification proposals. "GRAVITY WIDE SV" should be used for the proposal cycle.

Applications should be submitted through the [Phase 1 system](#) not later than 25 March 2022, 12:00 CET.

Version 1.0, issued 25/02/2022

¹ <https://www.eso.org/sci/facilities/paranal/instruments/gravity.html>

² <https://eso.org/sci/publications/announcements/sciann17474.html>

³ <https://www.eso.org/sci/activities/vltsv/gravitywidesv.html>

⁴ <https://www.eso.org/sci/activities/vltsv/svdoc.pdf>

⁵ <https://www.eso.org/sci/observing/phase1.html>