Science Verification call for Proposals: NAOMI on VLTI/ATs

NAOMI, the newly commissioned[0] adaptive optics for the VLTI Auxiliary Telescopes (AT), offer operational and interferometric performance improvements. To demonstrate this later aspect, NAOMI will be offered for Science Verification for 5 AT nights in early May 2019, with the PIONIER and GRAVITY instruments.

All astronomers are invited to participate in this opportunity to demonstrate the **improved capabilities of PIONIER and GRAVITY in terms of sensitivity (+1mag in limiting magnitude compared to the P103 call for proposal) and precision in visibility and closure phase (typically improved by a factor 2 to 3)**. Improved precision is important for targets with high contrast (e.g. a star+disk or star+faint companion, etc.) and/or highly resolved sources (i.e. low visibilities). These improvements require to full-AO correction, when the guide star is brighter than R=12.5. Beyond that, NAOMI offers no improvements in tip-tilt correction compared to the previous correction system.

Proposals will be reviewed by an internal panel and allocated time on the basis of scientific merit and feasibility, as well as in the demonstrated ability of the Principle Investigators to deliver results on a timely basis. Proposals will be screened against currently accepted proposals, including guaranteed time observations[1], to avoid duplication. Re-submission of rejected proposals will be evaluated on a case-by-case basis.

Please read carefully the VLTI[2], PIONER[3] and GRAVITY[4] documentation established for CfP103: **PIONIER and GRAVITY limiting magnitude should be increased by 1 mag based on the improvements provided by NOAMI in full-AO correction, i.e. if R<12.5**. Observations can be requested for any combination of the 3 standard AT configurations[5]: “small", “medium", “large".

The observations will be conducted in Service Mode, and all SV data are made public immediately after passing the usual quality control checks. The latest version of the GRAVITY and PIONIER data reduction pipeline will be available for reduction of the SV data and the SV team will try - on a best efforts basis - to provide pipeline-reduced data to all SV PIs. The reduced data will be made public as well.

Please use the special LaTeX template that can be downloaded from the NAOMI science verification web site: http://www.eso.org/sci/activities/vltsv/naomisv.html
Proposals may also be prepared using any suitable text editor following the guidelines of the LaTeX template, but please send us only the pdf output and please do not send finding charts at this time. The SV team will request these in due course.

Applications should be sent by EMAIL to naomisv@eso.org not later than Monday January 21st 2019, 18:00 CET

[1] https://www.eso.org/public/teles-instr/paranal-observatory/vlt/vlt-instr/naomi/
[2] https://www.eso.org/sci/observing/teles-alloc/gto/103.html
[3] https://www.eso.org/sci/facilities/paranal/telescopes/vlti/documents/VLT-MAN-ESO-15000-4552_v103.pdf
[4] http://www.eso.org/sci/facilities/paranal/instruments/pionier.html

[5] https://www.eso.org/sci/facilities/paranal/instruments/gravity.html
[6] http://www.eso.org/sci/facilities/paranal/telescopes/vlti/configuration/P103.html