

Personal projects (1)

Preparation of an observing proposal

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Abstract

This exercise is aimed at building a complete observing program for the VLTI. It consists in defining the scientific rationale and immediate objectives, ensure that the targets are observable, define the VLTI configuration, model the astrophysical source and estimate the correlated magnitude and the number of observations required. At the end one should be able to define the total time requested and the final configuration. This exercise is a simulation of the work required to eventually request time on the VLTI. Each proposal will be made by a party of 3.

1 Objectives

The objective of this work session is to prepare a complete proposal for observing with the VLTI using the tools that have been introduced during the week. The result will be presented on Saturday 10 afternoon morning with a comment on the problems that you have encountered using either powerpoint, openoffice or pdf slides (maximum of 5 slides).

2 Input data

Take one of your favorite astrophysical topics for which you would like to request some VLTI observing time and proceed as you would do with a normal proposal. Choose AMBER or MIDI (or both) depending on your astrophysical objectives.

3 Output data

1. Explicit in brief the scientific rationale: general astrophysical context, why VLTI is useful and which astrophysical issue it will help to tackle.
2. Explain the immediate objectives, i.e. why VLTI and the instrument chosen can answer a particular question.
3. List the targets you want to observe with the appropriate magnitudes (JHK for AMBER, N for MIDI) but also the V magnitude and spectral type for active guiding
4. give the requested VLTI configuration:
 - (a) Telescopes: UT/AT

- (b) Baseline(s)
 - (c) Number of visibility measurements required and at which hour angle range.
 - (d) Schedule constraints: dark moon, part of the night
5. Give the requested instrument configuration (cf. instrument presentations):
 - (a) spectral configuration
 - (b) other parameters
 - (c) required accuracy (visibility or phase)
 6. calibrators: strategy, list of calibrator stars
 7. technical feasibility:
 - (a) expected visibility range
 - (b) preferred month of observation
 - (c) total observing time
 8. preparation tasks if any
 9. general conclusion on the exercise

4 Material

You may use

- SIMBAD: <http://simbad.u-strasbg.fr/sim-fid.pl>,
- the Catalog of Infrared Observations (CIO, Gezari 1999) in ViZieR (II/225/Catalog): <http://vizier.u-strasbg.fr/vizier/u-strasbg/cio/>
- ASPRO : standalone version, full interface or **ASPRO Light** (<http://www.mariotti.fr/aspro>)
- the Astrophysics Data System: <http://adswww.harvard.edu/index.html>
- and/or another toolset of your choice

to produce figures that can be viewed. Use the numbers given in the AMBER, MIDI and VLTI presentations (Schller and Wittkowski on the local school website) to assess the feasibility of your program.

5 Presentation

Produce a maximum 5-page slide presentation of your proposal. Each group will present their proposal in 5 minutes.