

EXERCISE #5

OBSERVING PROGRAM PREPARATION

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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 target are observable, define the VLTI configuration, model the astrophysical source and estimate the expected signal-to-noise ratio. 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.

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 Friday 8 morning with a comment on the problems that you have encountered.

2 Input data

Take one of you 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 depending on your objectives.

3 Output data

1. explicit in brief the scientific rationale
2. explain the immediate objectives

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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) Hour angle range
 - (d) Schedule constrains: dark moon, part of the night
 - (e) Fringe tracker, dual-feed
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) date of observations
 - (c) total observing time
8. preparation tasks if any
9. plan for interpreting the data
10. 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/viz-bin/VizieR>,
- ASPRO: <http://www-laog.obs.ujf-grenoble.fr/jmmc/download/aspro>,
- getCal: <http://isc.caltech.edu/software/getCal>
- 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 (Petrov in this volume), MIDI (Perrin in this volume) and VLTI presentations (Glindemann in this volume) to assess the feasibility of your program.