Practical on Preparation of Observations...
...with the VLTI

Preparing interferometric observations is necessary for

YOU:

- to convince yourself that it is possible:

« is VLTI appropriate for my scientific purposes »

THEM:

- to show that allocated time will not be wasted

« how accurately will the actual observations serve the scientific purpose »

Convince yourself...

You need to apply the knowledge you have acquired lastly about spatial frequencies, squared visibilities, phase closures, dfferential visibility,...

PLUS a number of peculiarities/limitations of the interferometer/focal instrument that are described in a series of technical documentation of very limited attractiveness.

fortunately...

→ there are **preparation tools...**

→ **...**which have to be used with a critical eye.

Convince yourself (2)...

Is the VLTI appropriate ?

- spatial resolution **enough** or **too much**?
- instrument cover the **required band**
  (MIDI L band, AMBER K, H, (J?) band)
- amount of information returned:
  MIDI 1 baseline, spectral resolution R=30,300
  AMBER 3 baselines,1 closure R=75, 1500, 15000
- instrument sensitivity, limiting magnitudes limiting visibility.
- many other limitations (delay line, shadowing...)

Some of which can be answered by the tools

Convince Them...

get realistic numbers about the fitness to purpose:

- not based on error on a single measurement point (as in ESO cfp)
- but on the precision on model parameters (waiting the equivalent « accuracy on image reconstruction » when imaging will be available)

illustrate with clear plots...

Tools:

- ESO viscalc and calvin:
http://www.eso.org/observing/etc/
- JMMC aspro and searchCal
http://www.mariotti.fr/proposals.htm
- MPIA MIDI tools:
http://www.mpia-hd.mpg.de/MIDI/SIMVLTI/
- MSC tool GetCal
http://msc.caltech.edu/software/getCal
- European Interferometry Initiative JRA project:
http://eii-jra4.ujf-grenoble.fr/

a wedding soon?

Tools are also useful to « replay » an observation:

- log files are incomplete/missing
- header of files are incomplete/wrong (yes!)
- compare obs with simple models as a starter (show and even fit real data in aspro)

Work in progress:
Model-Fitting and **Image Reconstruction** software for optical interferometry soon available through the EII (JRA4 and FP7)