1st MATISSE Workshop,
2017/11/20,
OCA - Nice

for MATISSE observations

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http://www.jmmc.fr/doc/index.php?search=JMMC-PRE-2800-0006

PLAN

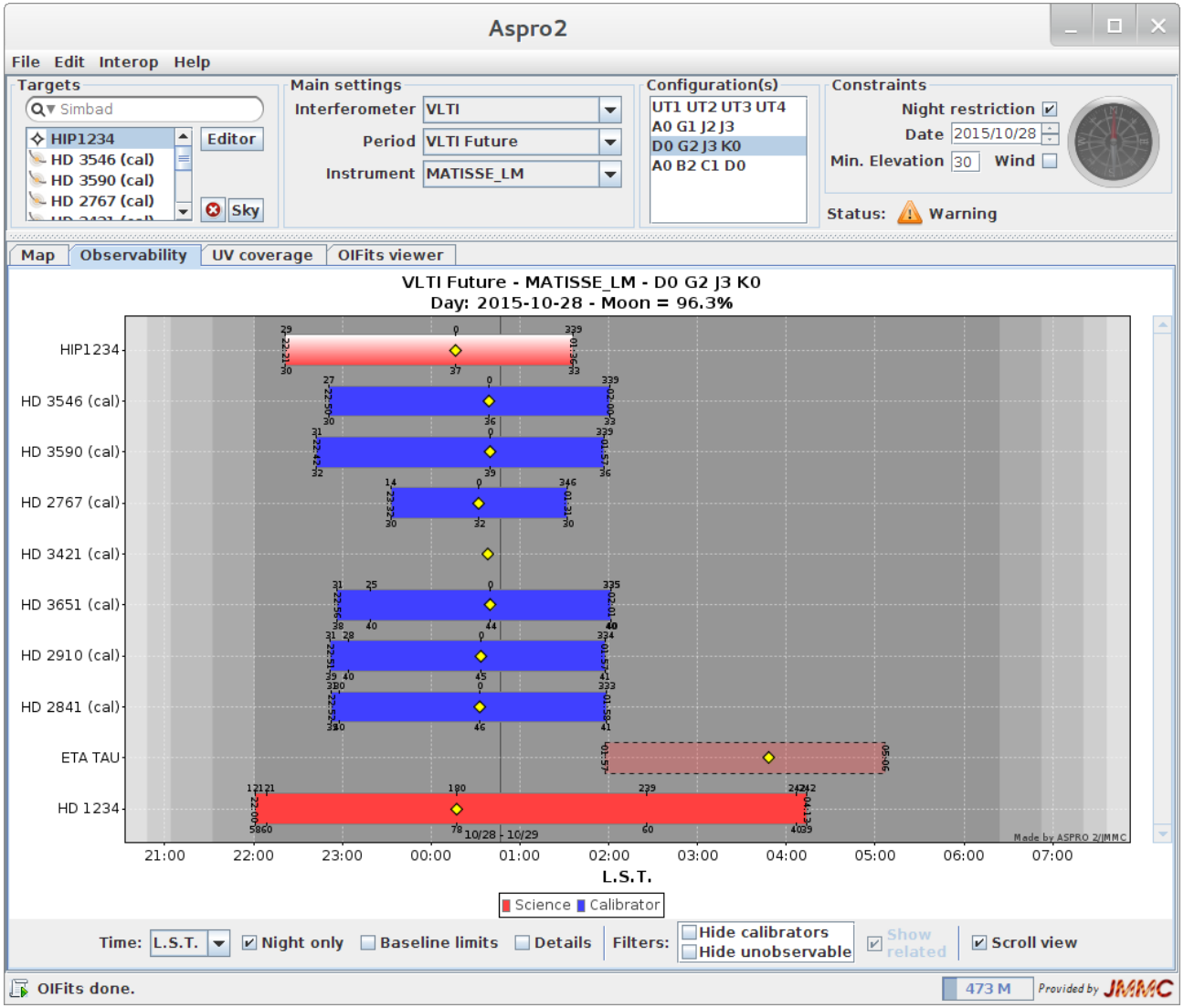
- Aspro 2
  - Feature overview
  - Polychromatic « user » models (FITS cubes)
  - OIFits simulation with MATISSE noise modeling
  - Remaining work

- Demo

Feature overview

- Official web page : aspro 2
- Java Application : Aspro 2 MATISSE (beta)
- Observation preparation = VLTI CfP ESO
  - Target & calibrator list with their models (geom / FITS)
  - Target observability, UV coverage
  - Instrument modes + noise modeling => **OIFITS data**
- Interoperability :
  - SearchCal (calibrator search), Vizier / Simbad (flux)
  - OB templates (P2PP)

Observability

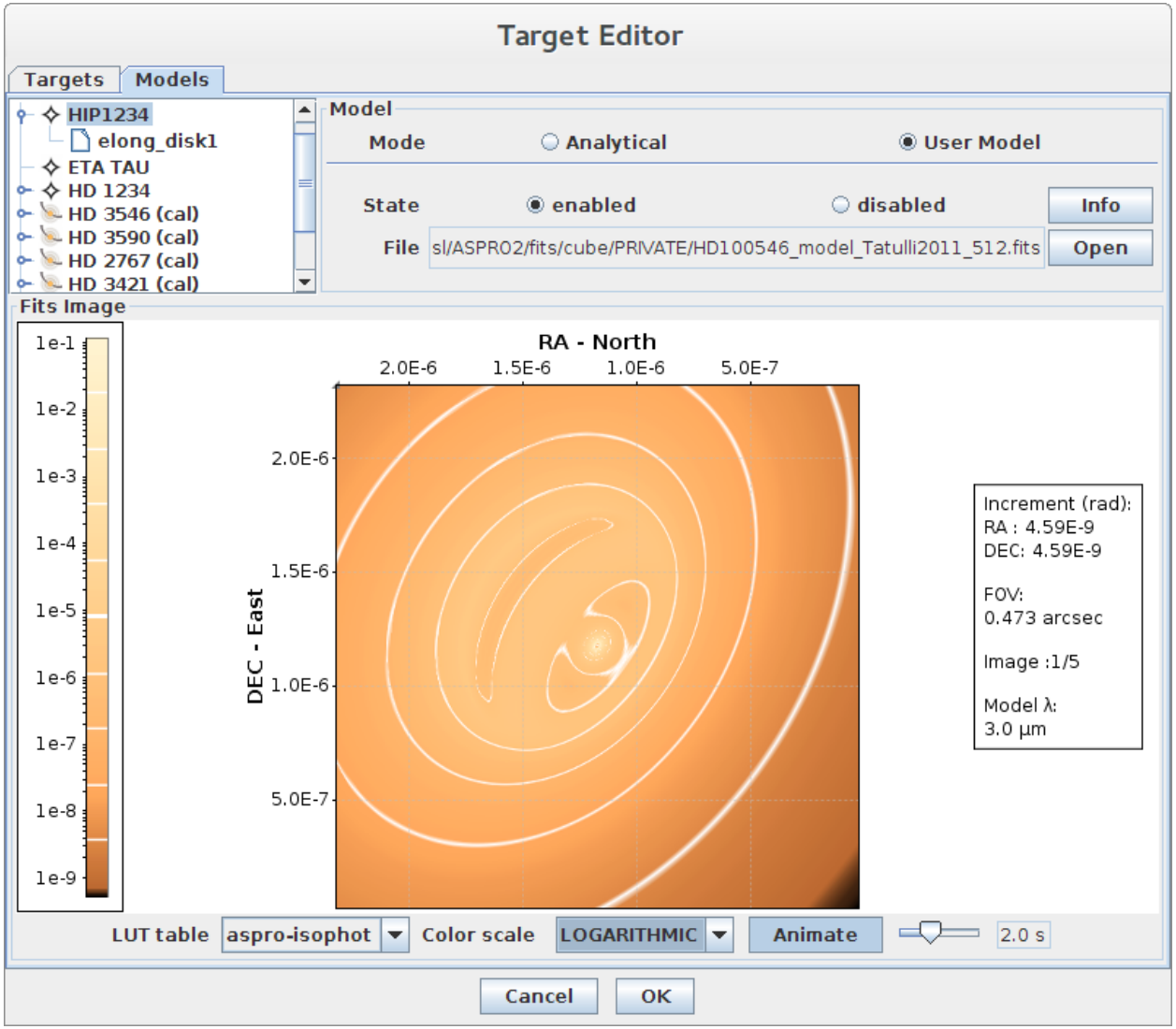


Observation =

Targets, array & instrument setup (MATISSE LM / N), baselines...

- SCI / CAL
- Horizon / DL constraints
- Configuration comparison
- Time markers (night mode)

Target Editor

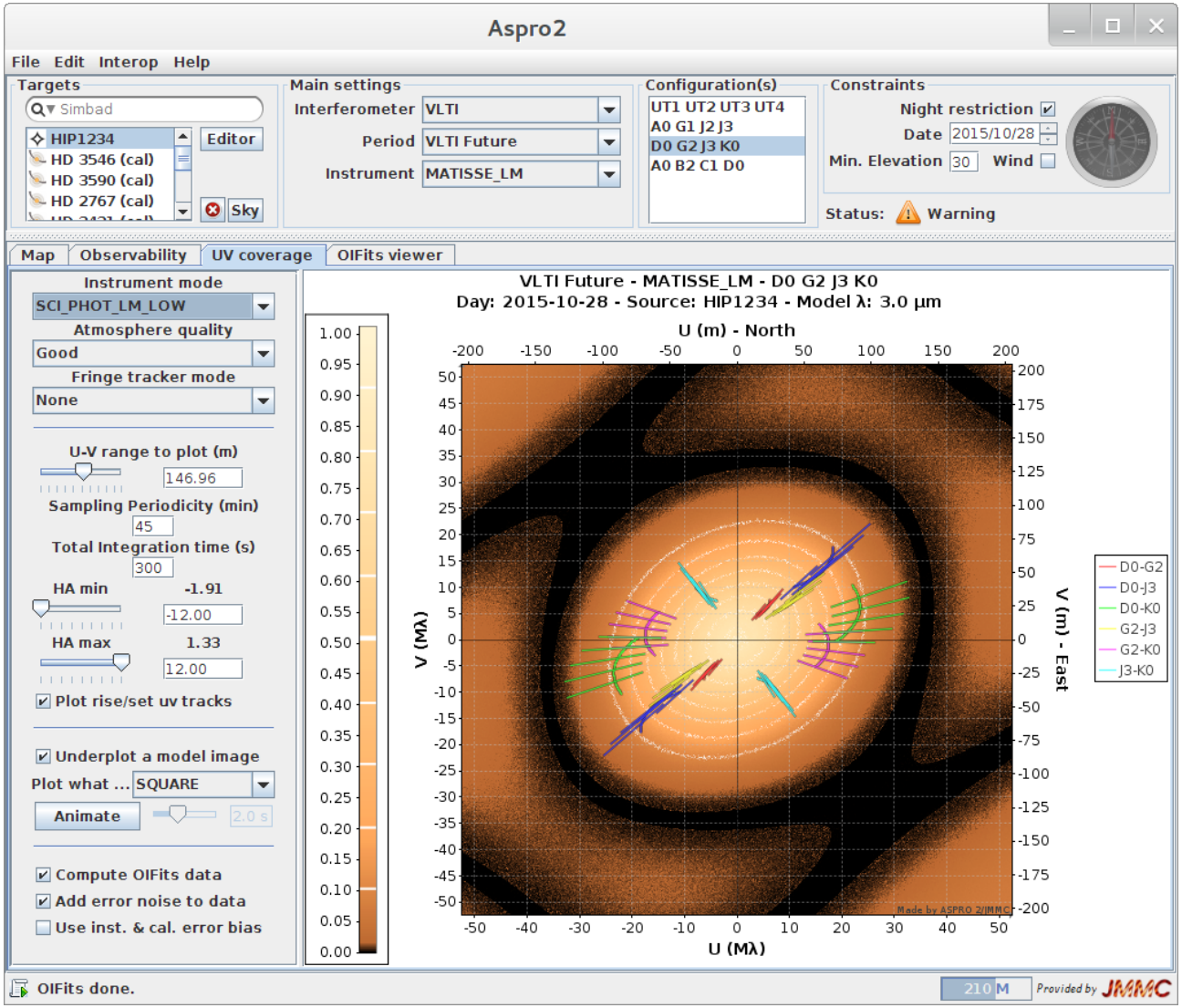


Target information:

- Fluxes (mag)
- Models
  - Analytical
  - User models (Fits cubes)

- ***No Jansky yet !***
- ***Image Flux not used yet !***
- ***FITS file paths !***

UV Coverage

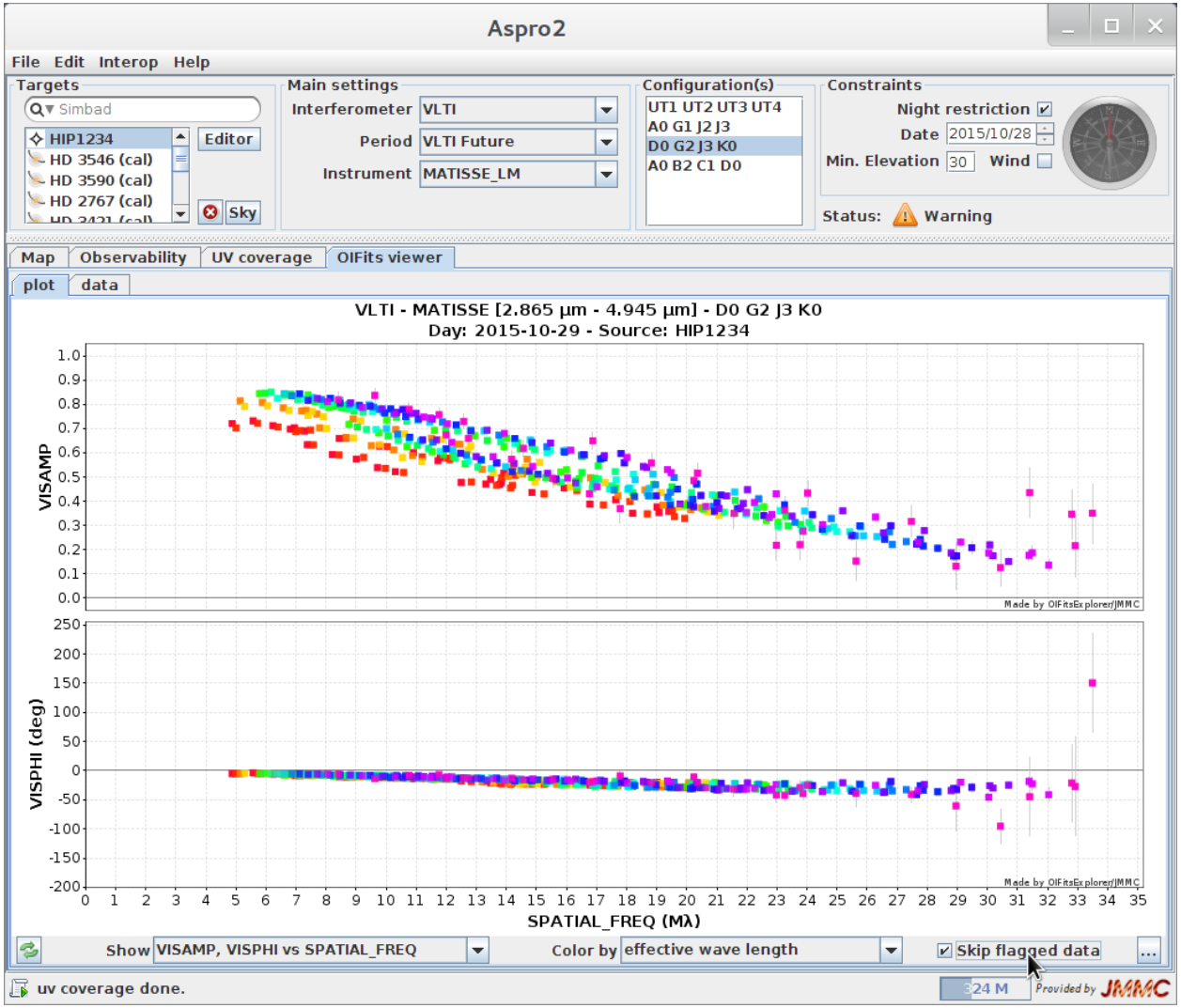


UV Plot for LM LOW mode with an user model at 3µm

Instrument mode:

- SCI_PHOT or HIGH_SENS
- Resolution (LOW, MED, HIGH)
- FT (preliminary)
- Total integration time (s) on SCI
- ***No windowing yet (HIGH res) !***

OIFits data simulation



Exact FT from user model images

Click 'Skip flagged data' to hide data with low SNR

MATISSE noise:

- atm transmission
- Thermal noise
- Instrument parameters
- ***Instrument modes to be refined !***

Remaining work

- Target flux (Jy):
  - Extract flux from fits images
  - Use target or theoretical spectra ?
- Refine instrument modes: SCI_PHOT, HIGH_SENS
  - Concrete spectral channels (lambda / delta_lambda)
  - Adjust DIT / Fringe tracker
  - Detector windowing in high resolution ? Or just official ESO modes
- Noise modeling
  - Use proper target flux in spectral channels
  - Add structure function contributions
  - Improve Calibration Bias handling on observables

Last word...

- Feedback is always welcome !
  - Bug reports
  - Enhancement requests
  - User support