AMBER DRS yorick interface What's new?

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Reminder: yorick interface

- Yorick is an « idl-like » scientific software

- Syntax close to C

- Is used as an interface to amdlib

- Most documentation can be found at: http://www.yorick.sourceforge.net, with an active help forum (if you are lost)

- Works best with emacs environment (mac/linux)

Reminder: list of commands

- **amdlibCompute[All]P2vm**

  - **Computes the P2VM(s)**

- **amdlibCompute[All]OiData**

  - **Computes the frame-by-frame OI DATA(s)**

- **amdlibAppend[All]OiData**

  - **Appends successive files**

- **amdlibPerform[All]FrameSelection**

  - **Selects and average OI DATA file(s)**

- **amdlibShowP2vm, amdlibShowOiData**

  - **Display functions**

Calibrate AMBER data, what for?

- Data calibration = everything beyond the « raw » OI fits datasets

- Have decent error estimates

- Get the differential phases properly calibrated

Have the full AMBER pipeline: from a full night observation up to fully calibrated datasets

Calibrate AMBER data, why?

- Make (at last!) the complete AMBER data reduction recipes fully available to the community

- Have a common frame where everyone agree that it is THE way to provide calibration routines in a open community context

- Have sufficiently automated routines to reduce large bunch of files (e.g. Image synthesis data)

- Have it robust against conditions, spurious data points, user experience, etc.

Basic principles

- Load a bunch of files and store it in a single place

- Separate « calibration » observations from « science » ones

- Compute a transfer function

- Interpolate a transfer function (fit a polynom, interpolate different ways, « speckle » way)

- Perform the calibration (i.e. μ / T, no more)

- Have nice plotting routines, and playaround tools (file selection, etc.)

- Have it fully documented and available to anyone

What is missing or in progress?

- **Documentation!**

- **Coherence length correction:**
  Seem to be robust on a few datasets. **Still has to be tested extensively.**

- **Diff. Phase « bending »**
  robust up to ~0.01 rad accuracy. Need for more work to get better accuracy

- **Jitter correction**
  See B. Valat PhD thesis. Complicated (fit to the data), **not yet robust**

- **FINITO data correction**

  - FINITO data will be distributed together with AMBER data starting from P88

The new steps in amdlib 3.01

- Calibration!

  - Computation of the transfer function based on the calibrators diameters

  - Display and estimate of data quality

  - Data sorting

  - Interpolation of the transfer function

  - Calibration itself (i.e. a simple division)

  - Right estimate of errors (external + internal)

The new steps in amdlib 3.01

- Calibration! Two « flavours » are implemented

- **amdlibSearchAllStarDiameters**

- Flavour 1

  - amdlibCompute[All]TransferFunction

  - amdlibShowTrans[fer]Func[tionVs]Time, amdlibShowTrans[fer]Func[tionVs]Wlen

  - amdlibCalibrateOiData

- Flavour 2

  - amdlibCalibrateAllTransferFuntion
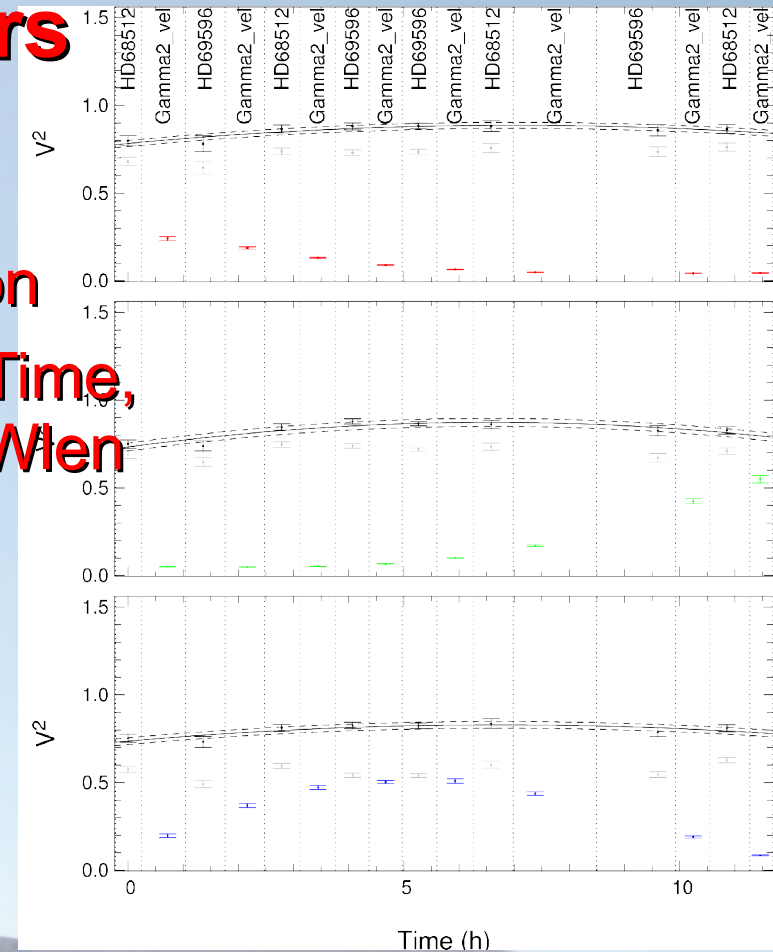
Ready? Practice!

- Now you need to get the real things:
  - Amdlib, v3.01
  - AMBER raw data
  - AMBER cosmetic maps (BPM and FFM)
- Twiki page of the workshop:

  – http://www.jmmc.fr/amberdrsWS2011

- Sample dataset:

  – your data!

  – http://apps.jmmc.fr/HD87643/