Data processing of AMBER data: FAQs

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Data processing of AMBER data: Frequently asked questions

- **Where can I find tutorial on AMBER data reduction?**

Answer: The tutorials available on ADS are:

- Tatulli et al.: "Interferometric data reduction with AMBER/VLTI. Principle, estimators, and illustration", 2007, A&A, 464, 29T
- Tatulli & Duvert : "AMBER data reduction", 2007, NewAR, 51, 682T
- Tatulli, Malbet, & Duvert: "Presentation of AMBER/VLTI Data Reduction", 2008, LNP, 742, 257T
- Milllour et al: ""Advanced" data reduction for the AMBER instrument", 2008, SPIE, 7013E, 132M
- Millour et al.: "AMBER on the VLTI: Data Processing and Calibration Issues", 2008, eic work., 461M
- Chelli et al.: "Optimised data reduction for the AMBER/VLTI instrument", 2009, A&A, 502, 705C
- Hummel:"Processing of AMBER data",2008, NewAR, 52, 192H

- **How does one apply FINITO data to the reduction of AMBER data?**

Answer: See Mérand et al. , 2012, SPIE, 8445E, 1KM.

- **Is there software available that makes use of the FINITO data?**

Answer: No, there is not. Currently this is at the discretion of the AMBER user. See also Le Bouquin et al. 2009, A&A, 493, 747L.

For FINITO/RMNREC, there is also a description of the data format in:https://www.eso.org/paranal/instruments/amber/tools/RMNREC.pdf which is also incorporated in the AMBER manual.

Data reduction ISAAC Frequently asked questions

- **Are there any known problems with ISAAC data?**

Answer: The quality control group keeps a list of know problems at

http://www.eso.org/observing/dfo/quality/ISAAC/ServiceMode/problems.html

- **How can I 'extract' lines from the arc and match them to wavelengths?**

Answer: In order to run the isaac_spc_arc recipe, you also need to select the CALPRO_XE_CATALOG and CALPRO_AR_CATALOG files (see pipeline manual page 48), which correspond to fits files named something like M.ISAAC.2008... in your data directory. These files should have been downloaded through the CalSelector option. In gasgano, you can find them listed in "Unknown Program/Unknown Observation". Then, the recipe should no longer crash.

- **Are there any colour transformations available for the ISAAC filters and another filter system?**

Answer: Coccato et al. (Msgr, in preparation) computed color transformation between ISAAC and VIRCAM filters. Using the known color conversion between VIRCAM and 2MASS (http://www.eso.org/sci/data-processing/faq.html#vircam), it is possible to derive the following transformations between ISAAC and 2MASS photometric system:

Js_ISAAC = 0.941 * J_2MASS + 0.059 * H_2MASS + 0.144

H_ISAAC = 0.976 * H_2MASS + 0.024 * J_2MASS + 0.057

Ks_ISAAC = 0.998 * Ks_2MASS + 0.002 * J_2MASS + 0.036

Data reduction MIDI Frequently asked questions

- **Which reduction software is available?**

Answer: There are three, the ESO pipeline and two provided by the consortium. The latter two come together as the MIA+EWS package. The ESO pipeline is mainly used for quality control immediately after observations and for instrument monitoring. For Science Grade data reduction MIA+EWS is recommended. The IDL-wrapper "MyMidiGui", integrated into the "oyster" environment, is available for MIA+EWS v.1.7.1 (see http://www.eso.org/~chummel/midi/mymidigui/mymidigui.html)

The most recent version of MIA+EWS is v.2.0 (see http://home.strw.leidenuniv.nl/~nevec/MIDI/index.html)

- **How do I best deal with photometry extraction?**

Answer: Problems with visibilities above unity etc. are usually due to the target photometry. The most critical step to obtain the best reduced data quality is the extraction of the (spectro-)photometry. Out-of-the box a mask is computed with some standard assumptions. If not of sufficient quality, this mask can be fine-tuned to improve background subtraction and spectro-photometric extraction. See http://home.strw.leidenuniv.nl/~jaffe/ews/MIA+EWS-Manual/masks.html for details.

If the night is stable (to be verified by, e.g., calibrator data), averaging of target

photometry, for each optical path, meaning typically per baseline, can be considered.

- **How do I best deal with faint targets?**

Answer: Of the current reduction software packages EWS v.2.0 performs best on finding and extracting fringes for very faint targets.

- **Is it possible to calibrate the visibility data of our object with a calibrator observed in another mode?**

Answer: The calibrator data should be reduced using MIA in HIGH_SENS mode (mode "D"). In that case, it does not use the photometric channels and the transfer function should be applicable to your science target