

AMBER observations of β Centauri

β Cen triple system

Eccentric ($e=0.82$) binary with two β Cep-type star (separation: 25.3 mas)

+ a faint 3rd companion (separation: 900 mas)

Masses of the primary and secondary: $M_1 = M_2 = 9.1 M_{\odot}$

Two very massive, rapidly rotating, pulsating stars

Observations

23/24 February 2005

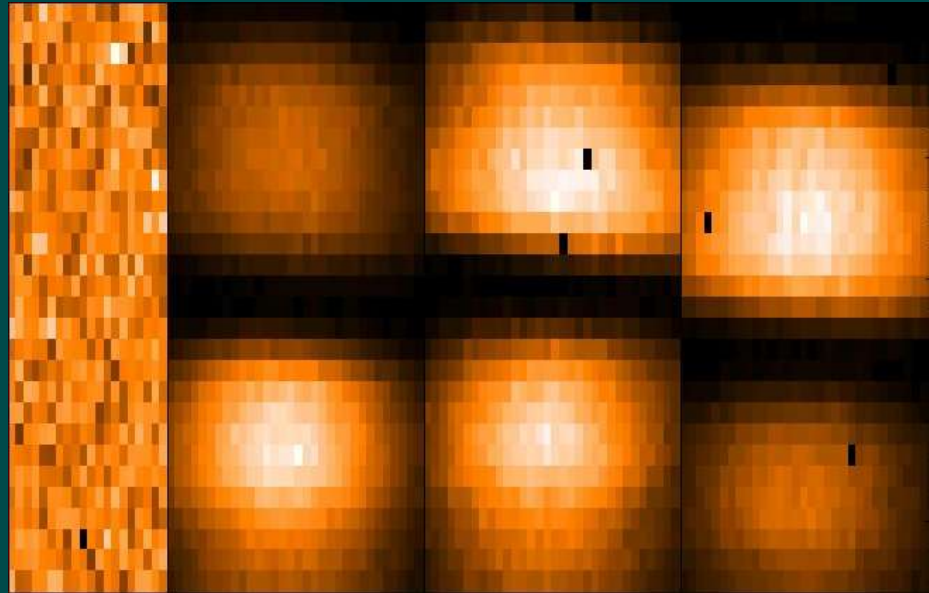
calibrator: HD124454

AMBER with 2 telescopes:
LowJHK
UT2-4 (89 m baseline)

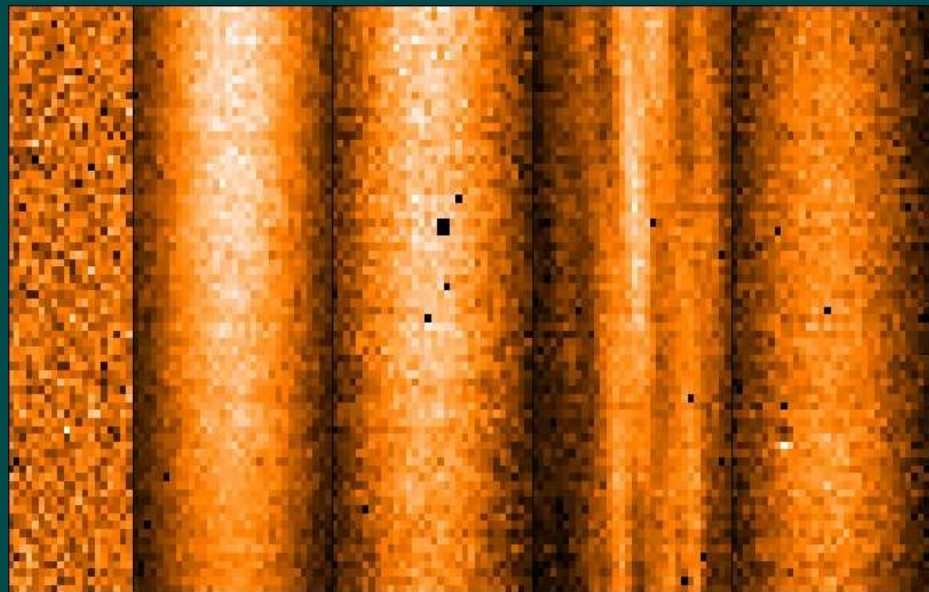
AMBER with 3 telescopes:
MediumK
UT 2-3-4 (42, 89 and 60 m baseline)

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2 telescope:
NO FRINGES!



3 telescope:
FRINGES!



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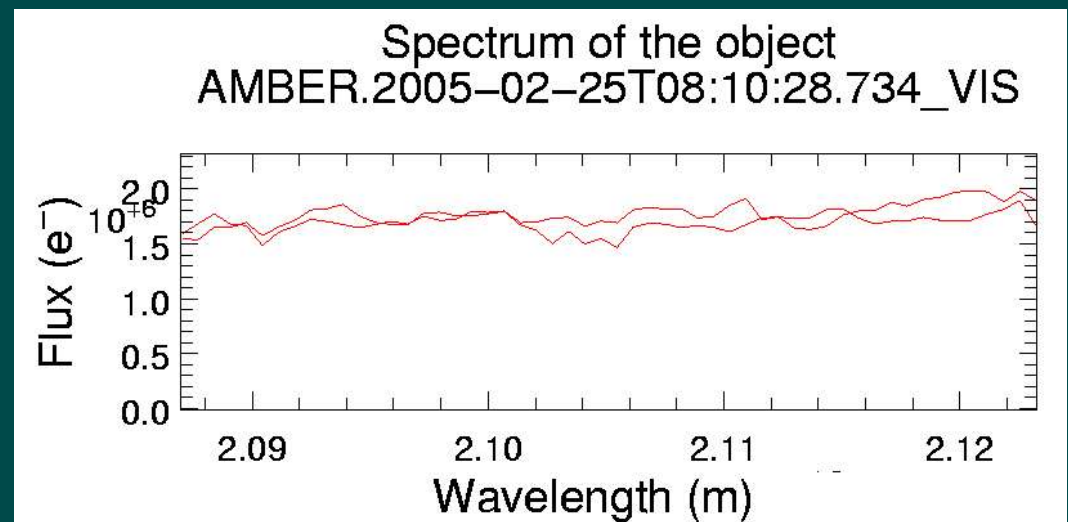
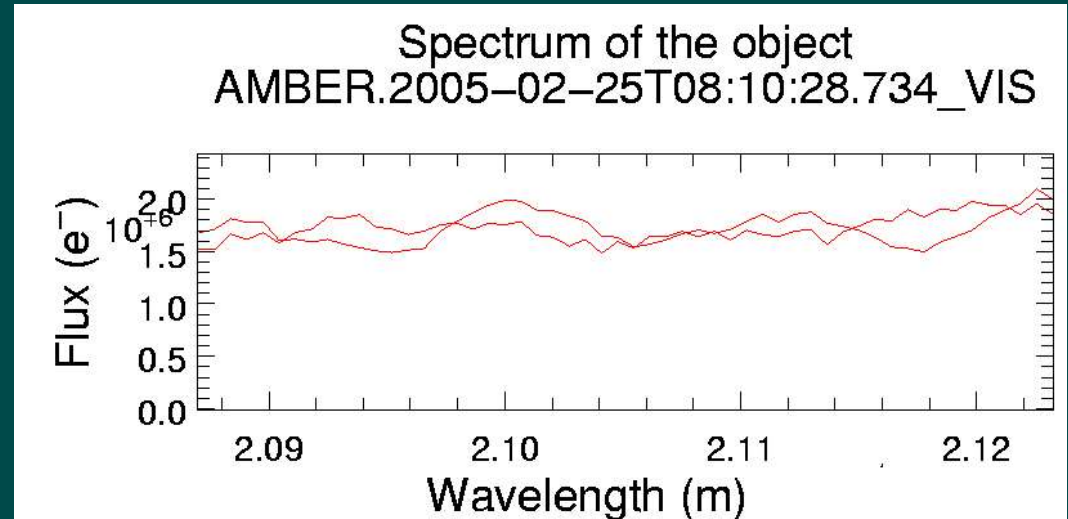
Alignment of spectral channels

Data reduction

1. Extract visibilities with GAZGANO

2. Post-processing in idl/ammYorick

3. Modelling in ASPRO



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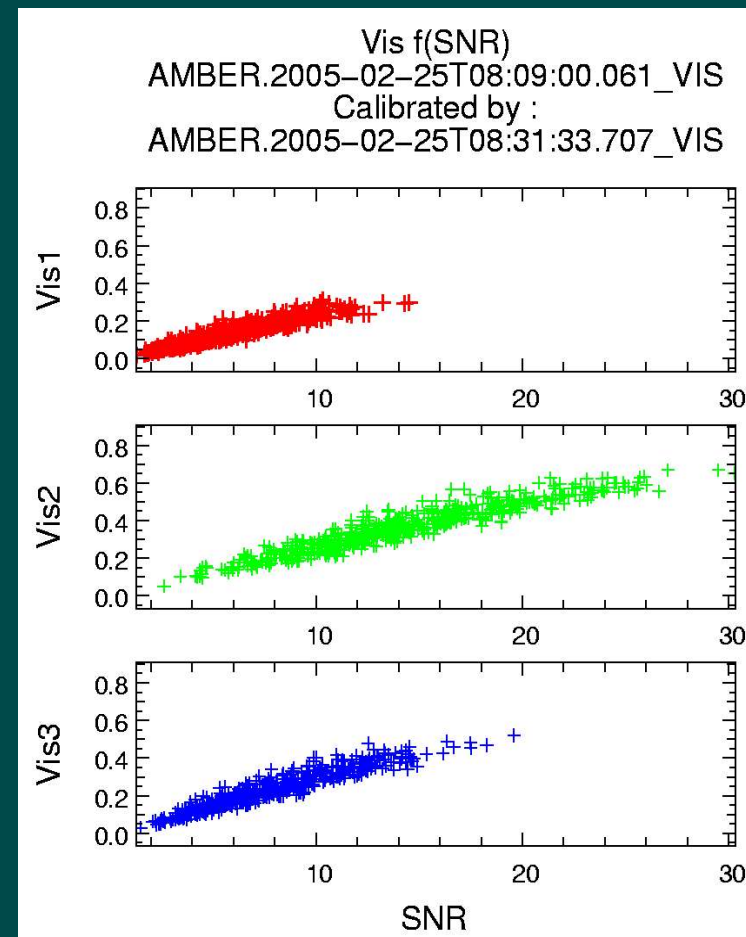
Quality check

Quality of the nights according to all calibrator measurements during the night:

Stable night, but scatter is larger than the uncertainties of the individual measurements \rightarrow estimate for errors of instrumental visibilities: $\approx 5\%$

Quality check of science measurements for the calibrator and the science target:

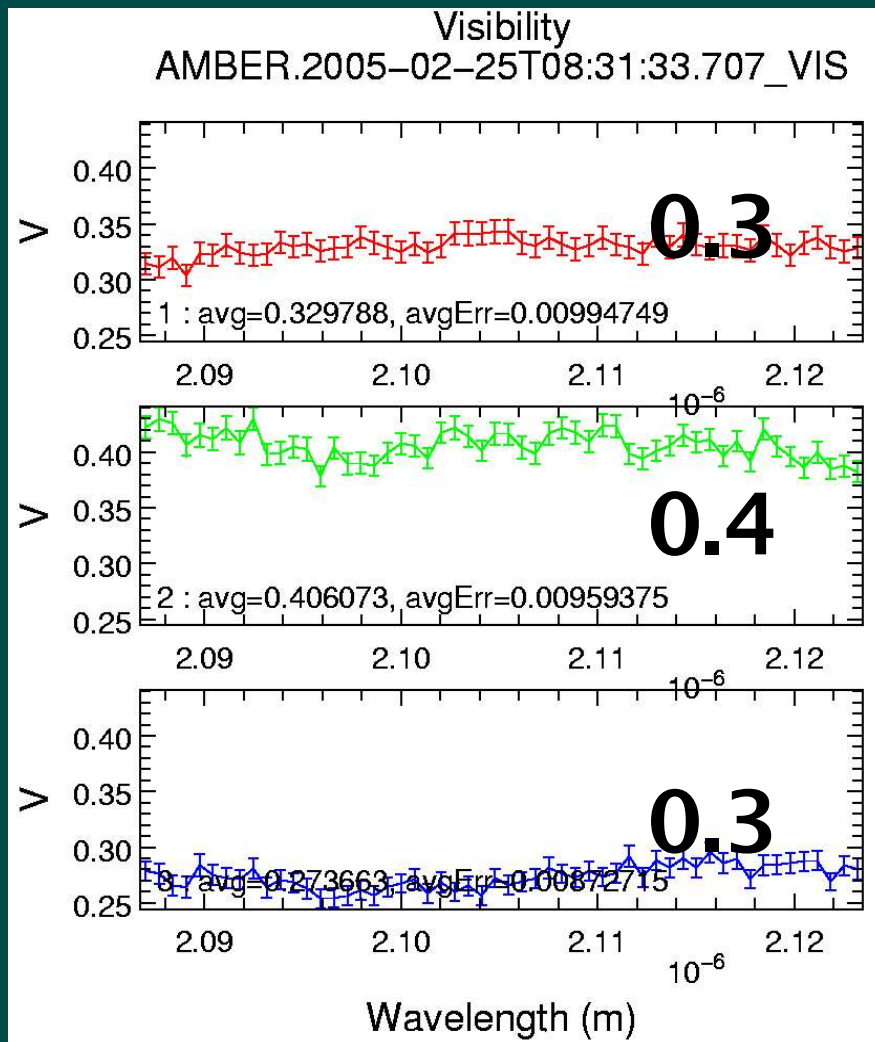
Higher SNR frames tend to result in higher visibilities \rightarrow apply a selection criteria for the frames: take those 50% of frames which have the highest flux



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Results

Transfer function:



Calibrated visibilities:

