

VLT/MIDI observations of Infrared Companions

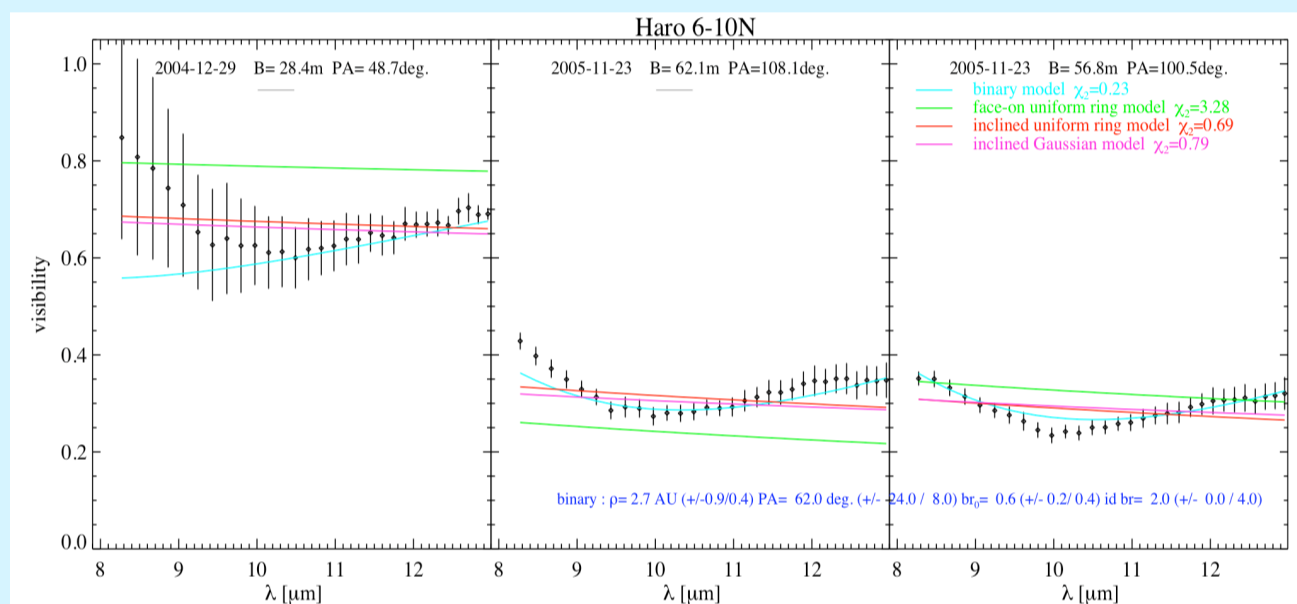
Constraining the geometry of the warm circumstellar environment

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Despite more than a decade of investigations, the nature of Infrared Companions (IRCs) is still a matter of debate. While the hypothesis that IRCs could be in an earlier evolutionary stage than their primaries implies that they are embedded in an optically thick (spherical) envelope, recent high spectral resolution near-infrared spectroscopy rather favors the scenario of IRCs being normal T Tauri stars seen through an almost edge-on disk.

We present a preliminary interpretation of recent high-spatial resolution interferometric observations of the IRCs Haro 6-10N, VV CrA NE and Glass-I obtained in the Mid-IR with MIDI/VLTI which provide further insights into the geometry of their dusty environment.



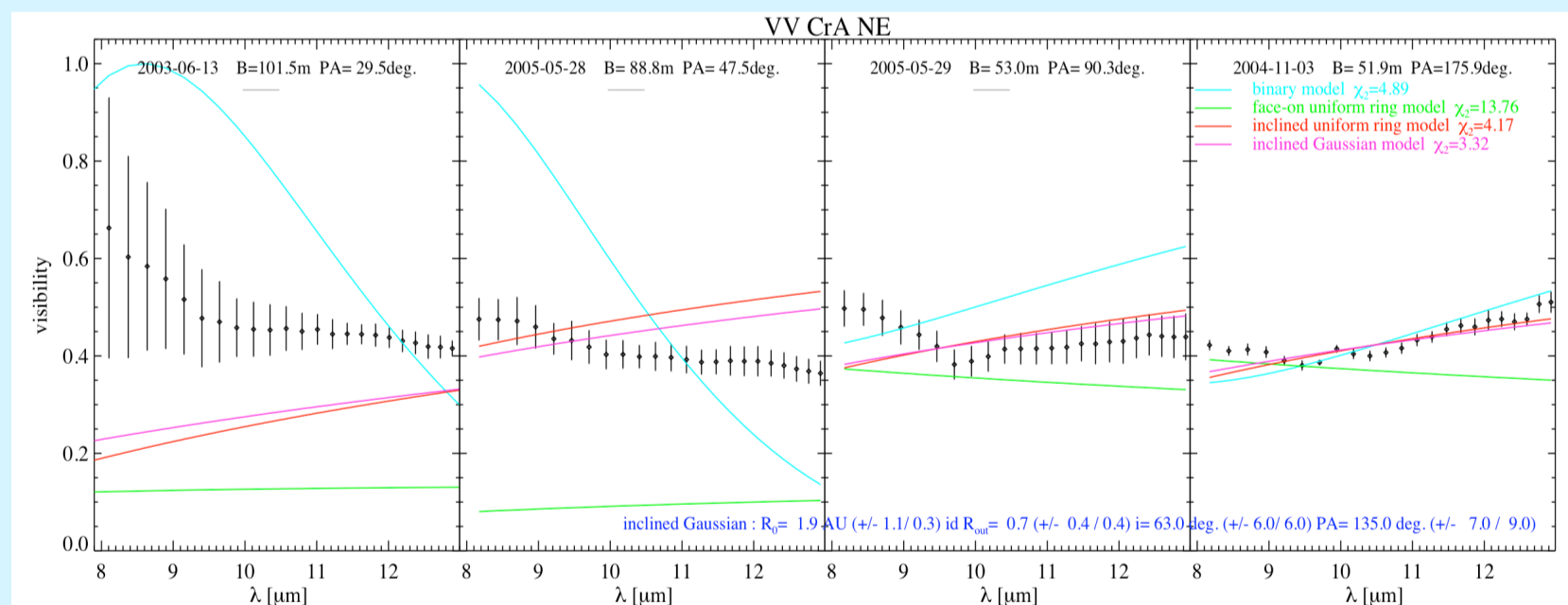
Figures show the set of observed spectrally-dispersed ($R \sim 30$) MIDI visibilities together with the best-fit geometrical models. The best-fit model parameters are also indicated

Assumptions :

The inner radius of the uniform brightness ring is not fitted and set to zero.

The individual disks of the binary are assumed to be unresolved.

The disk's outer radius and binary's brightness ratio are assumed to follow a power-law with wavelength.



While the data set is currently insufficient to distinguish between models for Glass-I, moderately inclined ($\sim 65^\circ$) geometrical disk models in the case of VV CrA NE and a binary (or alternatively a close to edge-on disk) for Haro 6-10N are able to fairly reproduce the data sets. Any spherical envelope seems to be inconsistent with the data, especially in the case of VV CrA NE.

Both an increased data set and more refined models are necessary in order to confirm these trends, which may however be consistent with IRCs being an heterogeneous class of objects.

