ISOCAM-CVF Spectroscopy of the Circumstellar Environment of Young Stellar objects

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This Highly Processed Data Product consists on CAM-CVF spectroscopy of a large number of Young Stellar Objects. The observations are all of those taken under the proposal YSODISKS (PI Mark Casali), and the data were published in:

"ISOCAM-CVF Spectroscopy of the Circumstellar Environment of Young Stellar Objects", Alexander et al., A&A, vol 401, p613-624 (2003), available at:

http://cdsads.u-strasbg.fr/cgi-bin/nph-bib_query?bibcode=2003A%26A...401..613A&db_key=AST

The data were reduced extensively beyond the scope of the pipeline, starting from the AAR level:

1. sources were identified in the CVF data: a local maximum in intensity in more than 75% of the frames was considered as a source;

2. ghosts were removed. They were identified by manual study of the individual ghost sources, taking into account: the position of the potential ghost source relative to other bright sources and the optical axis; the flux levels predicted for ghost sources when using the CVF, as outlined in the CAM handbook; and the spectrum of the source;

3. spectra were extracted by means of a 3x3 (observations with pfov=6'') or 5x5 (observations with pfov=3'') pixels aperture photometry with a correction at long wavelength due to diffraction limit.The sky was subtracted, and the spectra were smoothed in order to match the resolution of the CVF. CVF1 and CVF2 were joined together at the overlaping region and CVF1 data from 8.94 to 9.33 microns were discarded due to memory effects.

Most of the data reduction was done with IDL, and so the spectra currently exist as 42 individual ASCII files. Each of them has 3 columns: wavelength in microns, flux in Jy and flux error (also in Jy).

Please also be aware that the resolution element of the CVF is approximately 2-3 pixels wide, and varies slightly across the wavelength range.

Note that the errors are the statistical errors on the data points, evaluated using a point-to-point method (this is done because adjacent CVF filters overlapped). The larger ISOCAM calibration errors are not included as we were interested in only relative flux variations from pixel to pixel, rather than absolute flux measurements. The total errors (including the calibration ones) on the 8 micron fluxes are quoted in the second column of Table 2 in the paper. Users intending to combine these observations with those taken at other wavelengths should take particular note of this.

The source numbering is the same as in Table 1 of the paper, and the correspondance with observation number is the following:

TDT	Field	CVF segment	#sources
16700323	ChaI	CVF1	5
14801421	ChaI	CVF2	6
33000703	Ser A	CVF1	6
14900601	Ser A	CVF2	6
33001007	Ser B	CVF1	13
33001305	Ser B	CVF2	13
15500619	RCrA	CVF1	7
15500717	RCrA	CVF2	7
45201111	ρ Oph A	CVF1	4
45601809	ρ Oph A	CVF2	4
29601715	ρ Oph E	CVF1	6
29601813	ρ Oph E	CVF2	6

The name of the file containing each spectrum refers to the source number in the specific field and with the correspondant CVF segment, i.e. SerA_1.cvf1 is the spectrum of the first source in the Ser A field observed with the CVF1 segment . Each spectrum appears in the ISO archive as an HPDP associated to the related observation. One of the sources (ChaI 2) was only observed with CVF2 and so this file object only has the CVF2 file associated to it.

Some of the source identifications are uncertain because to the positional error due to the size of the ISOCAM PSF.
Please also refer to Table 1 for indications as to which sources were affected by the dead column on the array: rho Oph A 4, Ser B 8 and ChaI 1 fell on or near the bad column and so are somewhat uncertain. Ser B 12 (CVF2) fell directly on the bad column and was especially badly affected by this.