J/A+A/599/A121 Glycolaldehyde in Perseus young solar analogs (De Simone+, 2017)

Glycolaldehyde in Perseus young solar analogs.
De Simone M., Codella C., Testi L., Belloche A., Maury A.J., Anderl S.,
Andre P., Maret S., Podio L.
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=2017A&A...599A.121D (SIMBAD/NED BibCode)

ADC_Keywords: Associations, stellar ; Stars, G-type

Keywords: stars: formation - ISM: jets and outflows - ISM: molecules -

Abstract:
The earliest evolutionary stages of low-mass protostars are characterised by the so-called hot-corino stage, when the newly born star heats the surrounding material and enrich the gas chemically. Studying this evolutionary phase of solar protostars may help understand the evolution of prebiotic complex molecules in the development of planetary systems.

In this paper we focus on the occurrence of glycolaldehyde ($HCOCH_2OH$) in young solar analogs by performing the first homogeneous and unbiased study of this molecule in the Class 0 protostars of the nearby Perseus star forming region.

We obtained sub-arcsec angular resolution maps at 1.3mm and 1.4mm of glycolaldehyde emission lines using the IRAM Plateau de Bure (PdB) interferometer in the framework of the CALYPSO IRAM large program.

Description:
Glycolaldehyde spatial distributions towards NGC1333-IRAS2A1, NGC1333-IRAS4A, NGC1333-IRAS4B1, and NGC1333 SVS13-A.
The glycolaldehyde distribution refers to (1) the sum of the $7_{6,2-6}5,1$ and $7_{6,1-6}5,2$ emission with (220.2GHz, Eu=37K), and (2) the $22_{2,21-21}1,20$ emission (232.3GHz, Eu=135K).

Objects:

RA (2000)	DE	Designation(s)
03 28 55.55	+31 14 36.7	IRAS 2A = [JCC87] IRAS 2A
03 28 57.21	+31 14 19.1	IRAS 2B = [JCC87] IRAS 2B
03 29 10.49	+31 13 30.8	IRAS 4A = [JCC87] IRAS 4A
03 29 03.0	+31 15 53	SVS 13A = [SVS76] NGC 1333 13A

File Summary:

FileName	Lrecl	Records	Explanations
ReadMe	80	.	This file
list.dat	107	8	List of fits files
fits/*	0	8	Individual fits files

Byte-by-byte Description of file: list.dat

Bytes	Format	Units	Label	Explanations
1- 9	F9.5	deg	RAdeg	Right Ascension of center (J2000)
10- 18	F9.5	deg	DEdeg	Declination of center (J2000)
20- 23	I4	---	Nx	Number of pixels along X-axis
25- 28	I4	---	Ny	Number of pixels along Y-axis
30- 33	I4	Kibyte	size	Size of FITS file
35- 56	A22	---	FileName	Name of FITS file, in subdirectory fits
58-107	A50	---	Title	Title of the FITS file

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(End) Patricia Vannier [CDS] 09-Jan-2017

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