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|----------------------------------|--------------------------------------------------------------------------------------------------------|
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| <b>Title</b>                     | VizieR Online Data Catalog: L1157-B1 DCN (2-1) and H13CN (2-1) datacubes (Busquet+, 2017)              |
| <b>Authors</b>                   | Busquet, G., Fontani, F., Viti, S., CODELLA, CLAUDIO, Lefloch, B., BENEDETTINI, Milena, Ceccarelli, C. |
| <b>Publisher's version (DOI)</b> | 10.26093/cds/vizie.36040020                                                                            |
| <b>Handle</b>                    | <a href="http://hdl.handle.net/20.500.12386/27383">http://hdl.handle.net/20.500.12386/27383</a>        |
| <b>Journal</b>                   | VizieR Online Data Catalog                                                                             |



Portal Simbad Vizier Aladin X-Match Other Help

**J/A+A/604/A20** L1157-B1 DCN (2-1) and H<sup>13</sup>CN (2-1) datacubes (Busquet+, 2017)

The L1157-B1 astrochemical laboratory: testing the origin of DCN.

Busquet, G., Fontani, F., Viti, S., Codella, C., Lefloch, B.,  
Benedettini, M., Ceccarellli, C.

<Astron. Astrophys. 604, A20 (2017)>

=[2017A&A...604A..20B](#) (SIMBAD/NED BibCode)

**ADC\_Keywords:** YSOs ; Interstellar medium ; Radio lines ;  
Spectra, millimetric/submm

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

#### Abstract:

We performed high-angular-resolution observations toward L1157-B1 with the IRAM NOEMA interferometer of the DCN (2-1) and H<sup>13</sup>CN (2-1) lines to compute the deuterated fraction,  $D_{\text{frac}}(\text{HCN})$ , and compare it with previously reported  $D_{\text{frac}}$  of other molecular species. Our aim is to observationally investigate the role of the different chemical processes at work that lead to formation of the DCN and compare it with HDCO, the two deuterated molecules imaged with an interferometer, and test the predictions of the chemical models for their formation.

#### Description:

IRAM NOEMA observations of DCN(2-1) and H<sup>13</sup>CN(2-1) toward the brightest bow-shock B1 of the L1157 molecular outflow. All data cubes are provided in fits format smoothed to a velocity resolution of 0.5km/s.

#### Objects:

```
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      RA      (2000)      DE      Designation(s)
-----
20 39 10.2    +68 01 10.5    L1157-B1 = [DE95] LDN 1157-B1
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```

#### File Summary:

| FileName                 | Lrecl | Records | Explanations       |
|--------------------------|-------|---------|--------------------|
| ReadMe                   | 80    | .       | This file          |
| <a href="#">list.dat</a> | 98    | 2       | List of data cubes |

fits/\* 0 2 Individual data cubes

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**Byte-by-byte Description of file:** [list.dat](#)

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| Bytes  | Format | Units                  | Label    | Explanations                            |
|--------|--------|------------------------|----------|-----------------------------------------|
| 1- 9   | F9.5   | <a href="#">deg</a>    | RAdeg    | Right Ascension of center (J2000)       |
| 10- 18 | F9.5   | <a href="#">deg</a>    | DEdeg    | Declination of center (J2000)           |
| 20- 22 | I3     | ---                    | Nx       | Number of pixels along X-axis           |
| 24- 26 | I3     | ---                    | Ny       | Number of pixels along Y-axis           |
| 28- 30 | I3     | ---                    | Nz       | Number of pixels along Z-axis           |
| 32- 36 | F5.1   | <a href="#">km/s</a>   | bVRAD    | Lower value of VRAD interval            |
| 38- 41 | F4.1   | <a href="#">km/s</a>   | BVRAD    | Upper value of VRAD interval            |
| 43- 45 | F3.1   | <a href="#">km/s</a>   | dVRAD    | VRAD resolution                         |
| 47- 51 | I5     | <a href="#">Kibyte</a> | size     | Size of FITS file                       |
| 53- 74 | A22    | ---                    | FileName | Name of FITS file, in subdirectory fits |
| 76- 98 | A23    | ---                    | Title    | Title of the FITS file                  |

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Gemma Busquet, busquet(at)ice.cat

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**(End)**

Patricia Vannier [CDS] 30-Jun-2017

*The document above follows the rules of the [Standard Description for Astronomical Catalogues](#); from this documentation it is possible to generate *f77* program to load files [into arrays](#) or [line by line](#)*

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