

A STUDY OF X-RAY POINT SOURCES IN HEILES CLOUD 1 AND 2

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ABSTRACT. Star formation takes place in the coldest parts of molecular clouds, beginning in the densest, collapsing regions of filaments. Since pre-main sequence stars are luminous X-ray emitters, X-ray point sources can serve as effective tracers of YSOs. In our study, we examined the distribution of X-ray point sources in two nearby molecular clouds: Heiles Cloud 2 (HCL 2), a ring-like molecular cloud complex in the Taurus region, and Heiles Cloud 1 (LDN 1251), a cometary-shaped dark molecular cloud. By incorporating the latest YSO catalogue from Gaia DR3, we analyzed how YSO positions compare to the structure of the interstellar medium (ISM) and found that the sources are primarily aligned just outside the densest regions. Additionally, we compared the positions with the magnetic field structure and found no clear correlation at the given resolution.

KEYWORDS: ISM, YSO, polarisation, magnetic field.

1. INTRODUCTION

Star formation takes place in the coldest, densest parts of the interstellar medium (ISM), in the molecular clouds. The term 'cloud' is used to refer to structures in the interstellar medium that are separated from their surroundings by a sharp change in some physical or chemical property. ISM is highly filamentary and these filaments have been recognized as important environments of star-forming process and growth of new stars in these dense, active regions. ([1]) In wavelength ranges where strong, diffuse galactic background radiation dominates, such as in the far-infrared range, we can use the absorption of dust against the continuum radiation to study the structure of clouds. Examples of this methodology are the works of Bacmann et al. ([2]) and Stutz et al. ([3]), which demonstrated that detailed images of the internal structure of clouds and cores can be obtained using this technique. The Herschel Space Telescope mapped the sky at far-infrared and submillimeter wavelengths providing data on the highly structured ISM ([4]).

There are high-density cores in molecular clouds, which are the densest regions where gravity pulls the gas together. Star formation starts as the gravitational collapse of dense, rotating, magnetic molecular cloud cores. Due to angular momentum conservation, this process is always accompanied by the formation of circumstellar disks (e.g., Shu, Adams & Lizano 1987), sometimes still embedded in their envelope. The evolution of young stars in the first few million years after they emerge from their protostellar dusty envelopes is characterized by the presence of circumstellar disks and intense magnetic fields. Pre-main sequence stars are luminous X-ray sources due to the accretion process. Young stars emit X-rays with a luminosity several orders of magnitude higher than that of older field stars (Preibisch & Feigelson 2005 [5]). As a result,

X-ray observations have proven to be a highly effective method for identifying stellar members of young star-forming complexes, even in highly contaminated fields. This approach is relatively unbiased by the presence or absence of circumstellar disks (e.g., [6]; [7]). These observations of star-forming regions allow for the study of high-energy processes in YSOs, which are of great importance for our understanding of the star formation process. There are however a number of other types of X-ray point sources, including extragalactic ones. In our pilot study we try a comparative study of the distribution of X-ray point sources, the cold interstellar medium and the pattern of the dust linear polarization in the Heiles Cloud 1 and Heiles Cloud 2 (see [8]).

Heiles Cloud 1 is better known as LDN 1251 [9]. It is an elongated molecular cloud at the boundary of the Cepheus Flare giant molecular cloud (see [10], [11]). It bears dense cores (see eg. [12]) and a number of young stellar objects (see eg. [13], [14]) two of those, IRAS22343+7501 and IRAS22376+7455 show water maser emission (see [15] and [16] respectively). The cloud is elongated which may be the result of a low-velocity shock encounter according to [17] while [18] also investigated processes related to the magnetic field. The distance of LDN 1251 is around 340-350pc ([19], [20], [21]).

Heiles Cloud 2 (HCL 2) is a large cloud in the Taurus Molecular Cloud complex. HCL 2 is sometimes quoted as TMC-1, although the TMC-1 ridge is just a part of it (see eg. [22]). HCL 2 is active in star formation with all phases present: starless cores (see eg. [22]) protostars (see eg. [23], [24]) and more evolved YSOs (see eg. [22]). We will focus on the TMC-1 in our study. The distance of HCL 2 is around 140pc ([21]).

Recently [25] compared the pattern of polarization seen in images created from Planck polarization data

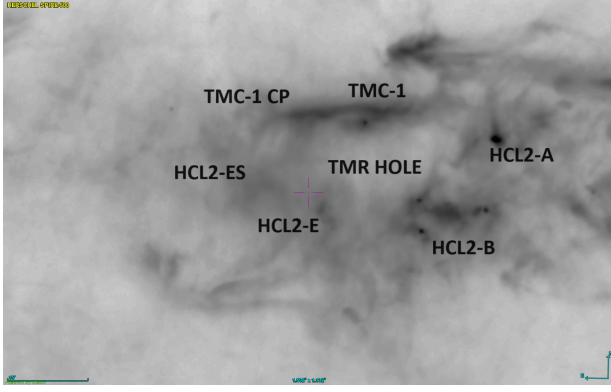


FIGURE 1. The four main clouds in the HCL 2 on the Herschel 500 μm infrared image

to that of the distribution of cold ISM. LDN1251 and HCL-2 showed quite different relations.

2. DATA AND METHODS

2.1. HEILES CLOUD 2

To examine the structure of HCL 2 we use infrared data from the Herschel SPIRE at 500 μm centered on RA(J2000)=4h41m Dec(J2000)=25°46'. We can see in Fig 1, where the molecular cloud is represented in the galactic coordinate system, that the molecular cloud has a ring-like structure and it identifies as the most massive molecular cloud complex in the Taurus region. HCL 2 is divided into four main clouds: (i)TMC-1, (ii) HCL2-A, (iii) HCL2-B, and (iv) HCL2-E, HCL2-ES. The research primarily concentrated on the narrow, fragmented ridge located in the eastern part of HCL 2, referred to as Taurus Molecular Cloud 1 (TMC-1). ([22])

2.2. TAURUS MOLECULAR CLOUD 1 (TMC1)

Because of X-ray data availability, we focused on the TMC1 part of HCL 2 and examined the distribution of X-ray point sources from the XMM-OM Serendipitous Source Survey Catalog X-ray data. ([26]) To further confirm and to find additional X-ray observations we add XMM-Newton Extended Survey of Taurus Molecular Cloud ([27]). For the position of YSOs we used Gaia DR3 data because it contains sources with reliable astrometry and analysis of their proper motions. Then we cross-correlated these with a YSO sample by Gábor Marton (in prep.).

2.3. MATCHING SOURCES IN HCL 2

After cross-matching the x-ray data and the location of YSOs we found three matching sources (see Fig.5). The observation of YSOs is not straightforward because they show a wide range of physical properties. The evolution of YSOs in the first few million years, after they emerge from their protostellar dusty envelopes, is characterized by the presence of circumstellar disks. For the classification of the YSOs, we

examine their spectral energy distribution (SED) because as a YSO ages, its circumstellar environment changes, and this change is reflected in the shape of its SED. For the determination of the state of the star formation, we look at the infrared excess, that comes from the dust in the ISM surrounding the object and is superimposed on the YSO's black body radiation. Class I objects are protostars that are accreting material onto the forming disk and have regular outflows at the poles. Class II objects are still embedded but with a thinner disc with less infrared excess. Class III objects are pre-main sequence stars with only a faint disk.

In Fig.5 we can see the three matching sources in HCL 2. We investigated their classification based on their SED and found that

- (1) is Haro 6-33 (see Fig.2), a T Tauri star at the TMC-1C. It is a class I object, where we observe a rising spectrum up to around 3 μm , followed by a flat spectrum between 3 and 22 μm caused by the presence of a substantial, infalling, circumstellar envelope. ([28])
- (2) is JH 223 TT* (see Fig.3), a class II YSO at TMC-1. Its SED is characterized by a decreasing flux in the 3-22 μm wavelength range. For this type of object the emission comes only from an optically thick circumstellar disk. ([28])
- (3) is XEST 07-024 (see Fig.4), a class III YSO in the TMR Hole, with only a small infrared excess.

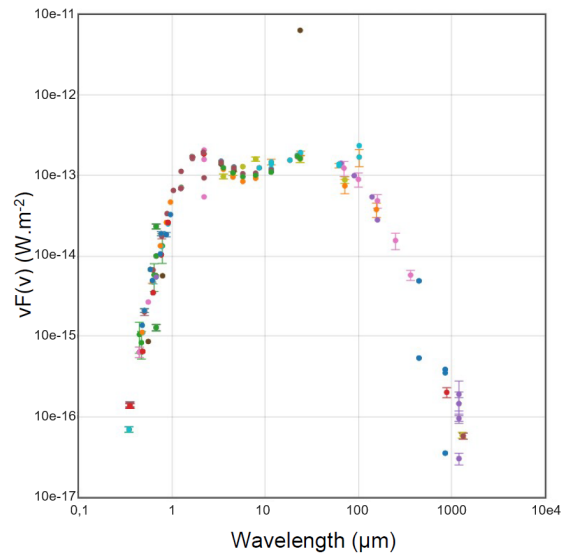


FIGURE 2. SED of Haro 6-33, a class I YSO in HCL 2. Description of the data points in Table 3.

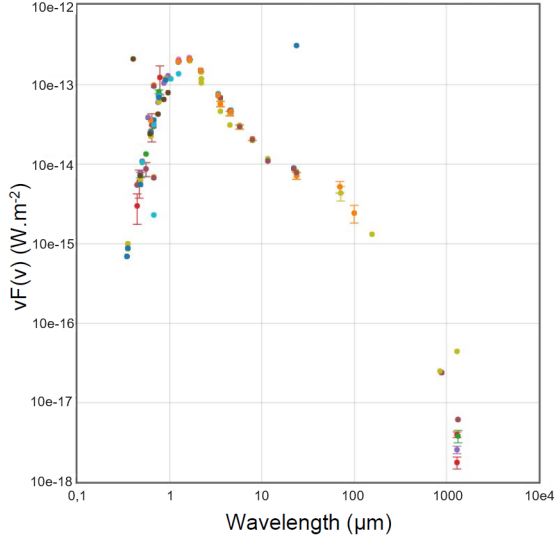


FIGURE 3. SED of JH 223, a class II YSO in HCL 2. Description of the data points in Table 4.

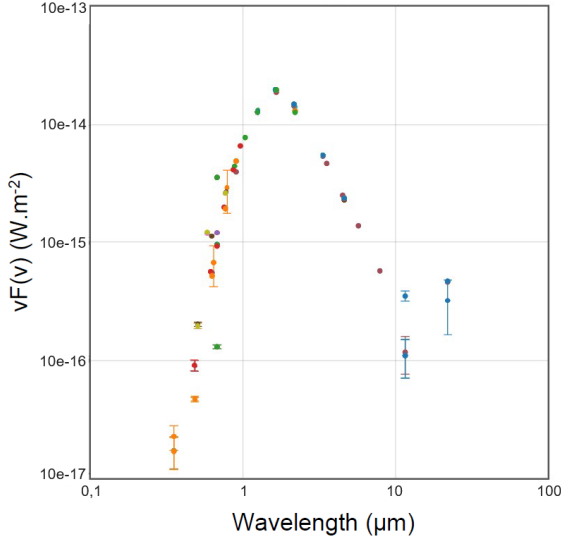


FIGURE 4. SED of XEST 07-024, a class III YSO in HCL 2. Description of the data points in Table 5.

The spectral energy distributions in Fig.2, Fig.3 and Fig.4 are derived from photometric data taken from VizieR. The different colors mean different sources for the data, as detailed in the appendix Table 3 3. The error bars represent the uncertainties of the respective measurements. Since the data points are collected from different surveys (as indicated by the colors), the presence and magnitude of the error bars depend on the original data sources.

2.4. HEILES CLOUD 1

The cometary-shaped LDN 1251 is one of the prominent molecular clouds of the Cepheus region. We examine the cloud in infrared at 500 μm made with Herschel. For the position of YSOs we use cross-correlated Gaia DR3 data with a YSO sample by

Gabor Marton (in prep.). For the X-ray data, we use the XMM-Newton Serendipitous Source Catalogue 4XMM-DR13 ([29]) and MORX (Millions of Optical-Radio/X-ray Associations) catalogue ([30]), which contains the LASS, LoTSS, RACS, FIRST, NVSS, and SUMSS radio surveys, and Chandra, XMM-Newton, Swift, and ROSAT X-ray surveys.

2.5. HARDNESS RATIO

The hardness of X-ray point sources can be determined by calculating the hardness ratio and it is used to show spectral properties. The importance of investigating the X-ray point sources is to draw conclusion of YSO candidates using the hardness ratio (see in Hardness ratio) of each X-ray source. With the help of this index, we can compare the position of the YSO candidates and the YSOs from the Gaia DR3. Some spectral information for faint sources can be derived from the X-ray hardness ratio, defined as:

$$HR = \frac{H - S}{H + S}$$

where S and H are the number of counts in the soft and hard bands, respectively. The HR values can be compared to that of YSO in the EDR in order to select new YSO candidates. Negative values indicate a soft spectrum and positive values indicate a hard spectrum. ([31]) After applying this formula to the X-ray sources and determining the hardness ratio, we used the 0.5–1.0 keV and 1.0–2.0 keV bands. To define the YSO candidates, we followed the criteria from a previous publication ([32]), considering sources with hardness ratio values in the range of -1.0 to 0.1 as potential YSOs. As a result, we identified 20 YSO candidates in HCL 2, as shown in Table 1. The HR values for the three matching sources are as follows: Haro 6-33 has an HR value of -0.105, JH 223 has -0.811, and XEST 07-024 has 0.071.

Table 2. shows the 30 YSO candidates in LDN 1251 based on their HR values.

We used the XMM-Newton survey HR datas ([33]) for the point sources we examined.

3. RESULTS

We cross-matched the X-ray sources with YSOs in TMC-1 and LDN 1251 and examined which of the X-ray sources could be YSO candidates to compare them with known YSOs from Gaia. However, the YSO candidates identified in these two clouds do not necessarily correspond to the matched sources, indicating that some potential young stellar objects may not yet be confirmed or classified as known YSOs.

In TMC-1, we identified 63 X-ray point sources, three of which matched known YSOs. As shown in Fig. 5, the distribution of X-ray sources (blue rhombs) and YSOs (yellow circles) reveals that they tend to be located around, rather than within, the densest parts of the cloud. This suggests that while ongoing star formation occurs within the densest regions, aligned

RA (J2000)	DE (J2000)	HR
04 40 39.13	+25 40 04.3	-0,206
04 40 49.54	+25 51 20.0	-0,811
04 40 47.15	+25 47 31.6	0,043
04 41 04.32	+25 57 55.5	-0,837
04 41 24.70	+25 54 48.4	-0,306
04 41 25.91	+25 43 47.7	-0,203
04 41 29.67	+25 38 14.5	-0,264
04 41 58.91	+25 57 50.4	-0,389
04 42 11.83	+25 31 27.3	-0,334
04 41 36.12	+25 49 59.5	0,005
04 41 38.80	+25 56 27.4	-0,105
04 40 37.41	+25 37 41.1	-0,137
04 42 28.97	+25 34 09.7	-0,18
04 40 39.75	+25 43 01.7	0,094
04 41 27.12	+25 38 04.8	-0,063
04 41 37.83	+25 55 35.9	-0,074
04 41 40.42	+25 54 12.9	0,081
04 42 04.45	+25 38 45.8	-0,06
04 42 07.41	+25 29 29.6	-0,012
04 42 08.51	+25 45 19.5	0,086
04 41 38.95	+25 24 26.5	-0,022
04 41 07.33	+25 33 41.5	0,071
04 42 08.51	+25 45 19.5	0,057

TABLE 1. The coordinates and hardness ratio of YSO candidates found in HCL 2

with the structure of the cloud, young stars and X-ray-emitting sources become more detectable as they emerge from their birth sites, where extinction is lower.

Similarly, in LDN 1251, we found 64 X-ray point sources, 20 of which matched known YSOs. Fig. 6 illustrates that both X-ray sources and YSOs are positioned around the cloud rather than deeply embedded in the most opaque regions. This spatial distribution aligns with the expectation that young stellar objects, particularly those in later evolutionary stages, become more visible in X-rays once they have cleared some of their surrounding material. Additionally, the correlation between X-ray sources and YSOs outside the densest areas may indicate regions of recent or ongoing star formation where emerging stars become X-ray active as they evolve.

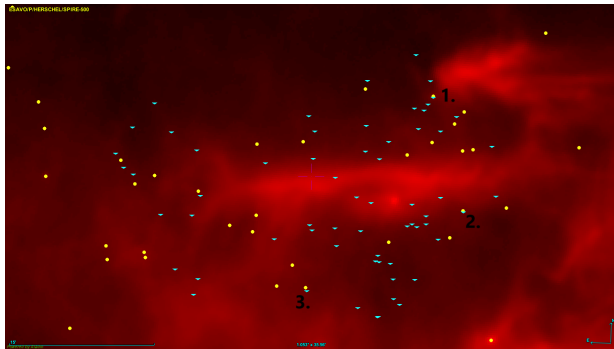


FIGURE 5. Herschel 500 μm image of the Heiles Cloud 2 with the TMC-1 ridge in the centre, the TMR Hole below it, and the TMC-1C in the upper right corner. We overlaid X-ray point sources (blue triangles) and YSOs (yellow circles), and marked the positions of three selected YSOs (see text).

RA (J2000)	DE (J2000)	HR
342.957757	+75.096472	-0.653135
339.666273	+75.238812	-0.628847
343.785354	+75.004985	-0.585712
343.140114	+75.217713	-0.530832
339.781313	+75.175109	-0.529483
343.137091	+75.229216	-0.523715
339.443125	+75.143217	-0.513268
339.031998	+75.359255	-0.464459
338.657758	+75.192675	-0.431929
342.488747	+75.104120	-0.426178
343.166193	+75.071182	-0.384939
343.451572	+75.106704	-0.378140
343.590204	+74.965667	-0.314152
343.285043	+75.053685	-0.309921
342.738687	+75.108034	-0.303983
339.645200	+75.200929	-0.288714
342.420129	+75.025788	-0.283266
339.677343	+75.196029	-0.280326
342.525642	+75.128734	-0.262991
339.619931	+75.249014	-0.248900
343.009320	+75.164331	-0.227124
343.285296	+75.039826	-0.216046
339.050367	+75.212686	-0.194606
343.793039	+74.954663	-0.192297
339.829930	+75.197401	-0.165193
342.484131	+75.043194	-0.160678
339.887683	+75.221501	-0.130436
342.473185	+75.120343	-0.126321
342.430687	+75.190120	-0.100328
342.560594	+74.920663	-0.097193
339.863918	+75.174516	-0.094893
339.400663	+75.097643	-0.073893
343.317712	+75.071321	-0.060079
339.550711	+75.204772	-0.025209
339.594040	+75.192727	-0.011237
339.867444	+75.399739	0.024469
339.811320	+75.121159	0.046853
343.104486	+74.890597	0.083169
340.096978	+75.204793	0.085564
343.956811	+75.123575	0.088863
338.674788	+75.238829	0.093959
343.236888	+75.158129	0.129253
343.058150	+75.055343	0.144405
339.022812	+75.308814	0.227217
342.475152	+75.167733	0.238902
343.408966	+75.289887	0.240431
343.165062	+75.105772	0.262984
339.434881	+75.223244	0.265742
339.965553	+75.326335	0.272838
338.640705	+75.286671	0.284856
343.721962	+75.128206	0.287354
343.679722	+75.045595	0.312120
342.592285	+75.157863	0.314148
339.578423	+75.198197	0.339752
339.365938	+75.257064	0.344141
339.439293	+75.346271	0.359463
338.819306	+75.313116	0.372662
338.858168	+75.175652	0.380989
342.778512	+75.130965	0.413904
339.929106	+75.240813	0.417928
342.630871	+75.095338	0.421081
343.247715	+75.163632	0.432724
340.226454	+75.156715	0.437377
339.917555	+75.222679	0.437697
339.725959	+75.321172	0.439713
343.775427	+75.201870	0.451005
343.527466	+75.078175	0.477650
342.293686	+75.011957	0.485013
339.375895	+75.134971	0.496110
343.924093	+75.162493	0.503376

TABLE 2. The coordinates and hardness ratio of YSO candidates found in LDN 1251

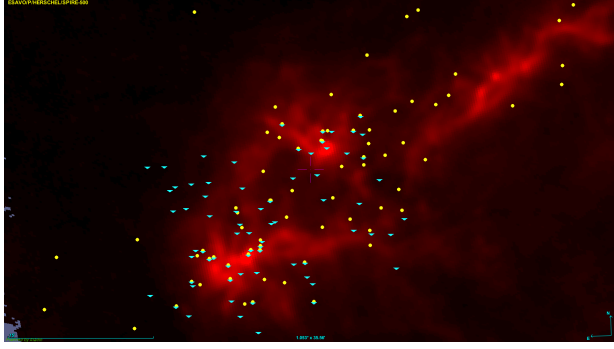


FIGURE 6. Herschel 500 μm image of LDN 1251 with the X-ray point sources (blue triangles) and YSOs (yellow circles).

3.1. POLARIZATION

The phenomenon of polarization was described as early as the 1950s ([34]), and since then, it has remained one of the most important methods for studying the structure of the magnetic field. Magnetic fields play a crucial role in star formation processes at all scales. A precise and detailed determination of their properties – including strength and spatial orientation – is essential for a thorough understanding of the physical characteristics of molecular clouds, star cores, and protoplanetary disks. For the investigation of the magnetic field associated with star-forming regions, we examined the polarized dust emission. This method, which involves studying polarized emission in the far-infrared and millimeter wavelength ranges, is one of the most suitable techniques for exploring the magnetic field of molecular clouds ([35]).

We used Planck all-sky intensity and polarisation maps at 353GHz and cut out the regions HCL 1 and HCL 2 and calculated the magnetic field orientation. We used a Line Integral Convolution (LIC) method to visualise the field lines and blended these with the intensity maps, imprinting the field structure as darker lines. This allows to observe the relationship between intensity and magnetic field orientation.

In Fig.7 and Fig.8 we also overlaid a vector representation of the magnetic field onto the LIC composite to observe the relative field strength in different areas of LDN 1251 and HCL 2. The vectors' length shows the intensity of the magnetic field's transverse component to the line of sight. Because of this, a shorter vector can also mean the rotation of the magnetic field. Fig.9 and Fig.10 show YSOs as white plus (+) and X-ray point sources as yellow cross (×) symbols, overlaid on the LIC composite of the intensity and magnetic field. The majority of the YSOs are concentrated in the dense part of the clouds.

3.2. COMPARISON

The vectors indicate the direction of the magnetic field. Both cloud's magnetic field vectors are aligned, suggesting a more ordered magnetic field. But we could not make assumptions about the structure of the magnetic field, for that we need a higher resolution. In

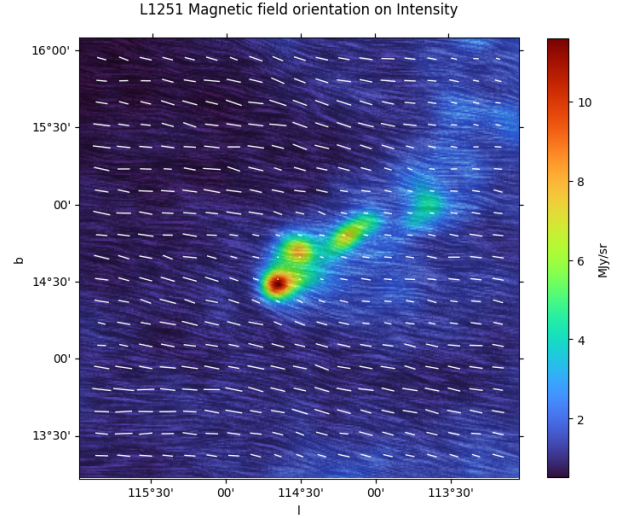


FIGURE 7. Magnetic field orientation and relative strength perpendicular to the line of sight in LDN 1251 based on Planck polarimetry data. The field structure is visualised using an LIC method blended with intensity, with an overlaid vector field representation indicating the relative field strength perpendicular to the line of sight.

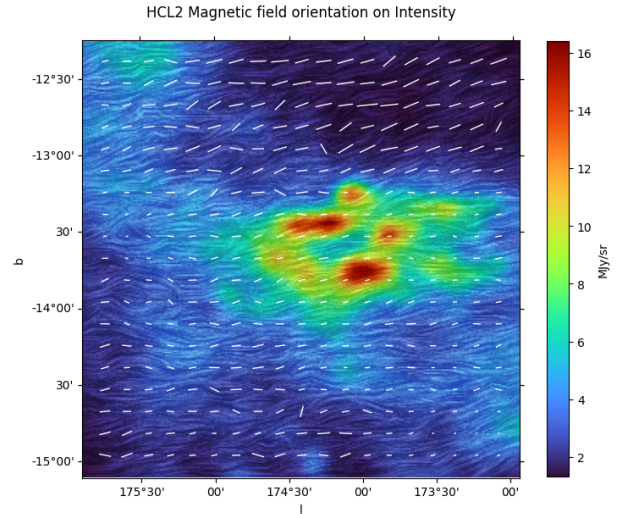


FIGURE 8. Magnetic field orientation and relative strength perpendicular to the line of sight in HCL2 based on Planck polarimetry data. The field structure is visualised using an LIC method blended with intensity, with an overlaid vector field representation indicating the relative field strength perpendicular to the line of sight.

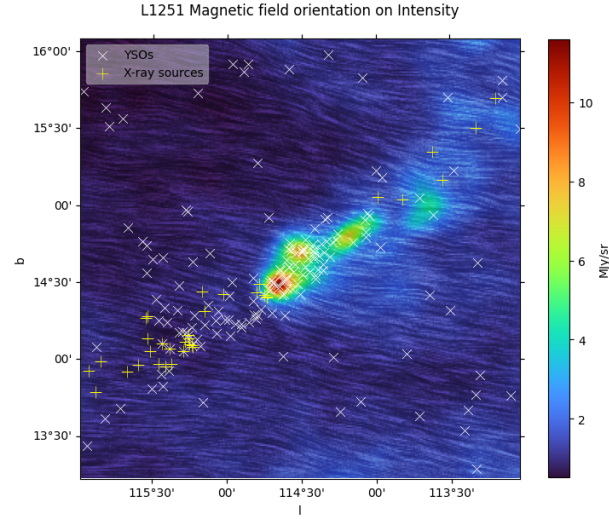


FIGURE 9. Magnetic field orientation in LDN 1251 based on Planck polarimetry data, with overlaid YSOs as plus (+) and X-ray point sources as cross (×) symbols. The field structure is visualised using an LIC method blended with intensity.

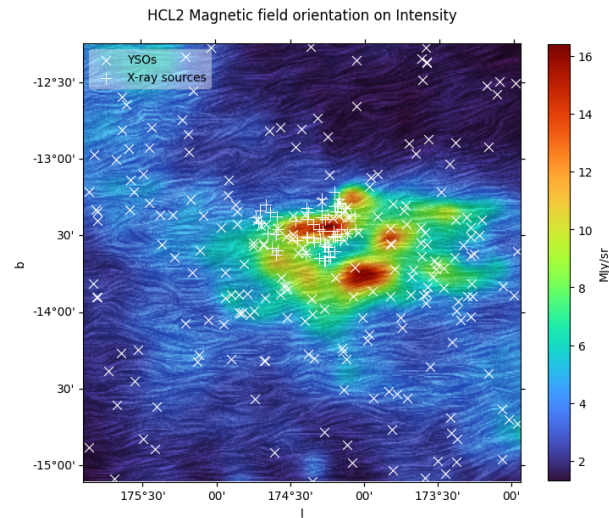


FIGURE 10. Magnetic field orientation in HCL 2 based on Planck polarimetry data, with overlaid YSOs marked as plus (+) and X-ray point sources as cross (×) symbols. The field structure is visualised using an LIC method blended with intensity.

the future, we plan to conduct a correlation analysis to examine the relationship between the magnetic field properties and other characteristics of the clouds. A more detailed and in-depth investigation of the magnetic field will be carried out later, including comparative studies to better understand its role in the cloud dynamics. Additionally, we aim to examine the role of the magnetic field in the formation locations of point sources.

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This research has made use of Aladin sky atlas, CDS, Strasbourg Astronomical Observatory, France.

This research has made use of the VizieR catalogue access tool, CDS, Strasbourg, France (DOI: 10.26093/cds/vizie). The original description of the VizieR service was published in 2000, A&AS 143, 23.

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A. APPENDICES

TABLE 3. Data points on Figure 2 for Haro 6-33 from Vizier Photometry viewer

λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID
0.34	6.88E-17	5.40E-18	II/370/xmmom5s	recno=1493997
0.34	6.89E-17	5.40E-18	II/356/xmmom41s	recno=1404730
0.35	1.35E-16	9.37E-18	J/ApJS/253/19/mstars	recno=45351
0.35	1.37E-16	9.37E-18	IV/34/epic	ID=248018164&-c=070.411763 +25.940765,eq=J2000&-c.rs=0.004
0.35	1.41E-16	1.02E-17	V/154/sdss16	-c=070.411754 +25.940758,eq=ICRS&-c.rs=0.004
0.35	1.43E-16	1.02E-17	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.44	6.36E-16	9.58E-17	IV/38/tic	-c=070.41179395162 +25.94078969880,eq=J2000&-c.rs=0.004
0.44	1.05E-15	4.39E-16	I/305/out	GSC2.3===N9RV004914&-c=070.411814 +25.940912,eq=J2000&-c.rs=0.00
0.47	8.33E-16	3.14E-16	I/305/out	GSC2.3===N9RV004914&-c=070.411814 +25.940912,eq=J2000&-c.rs=0.00
0.48	1.12E-15	3.14E-17	II/349/ps1	-c=070.411801850 +25.940684730,eq=J2000&-c.rs=0.004
0.48	1.37E-15	3.14E-17	J/AJ/156/241/table4	recno=2882736
0.48	6.47E-16	6.22E-18	IV/34/epic	ID=248018164&-c=070.411763 +25.940765,eq=J2000&-c.rs=0.004
0.48	1.11E-15	3.11E-17	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.50	2.10E-15	1.19E-16	I/350/gaiaedr3	-c=070.41180463045 +25.94067562056,eq=ICRS&-c.rs=0.004
0.50	2.00E-15	1.90E-16	I/345/gaia2	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.55	8.61E-16		J/MNRAS/444/1157/table2	recno=133
0.55	2.67E-15		II/366/catv2021	recno=518426
0.58	6.80E-15	1.54E-16	I/350/gaiaedr3	-c=070.41180463045 +25.94067562056,eq=ICRS&-c.rs=0.004
0.61	4.82E-15	2.50E-16	II/349/ps1	-c=070.411801850 +25.940684730,eq=J2000&-c.rs=0.004
0.61	4.94E-15	0.00E+00	J/AJ/156/241/table4	recno=2882736
0.62	6.69E-15	1.44E-16	I/345/gaia2	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.62	3.48E-15	1.44E-17	V/154/sdss16	-c=070.411754 +25.940758,eq=ICRS&-c.rs=0.004
0.62	3.49E-15	1.44E-17	J/ApJS/253/19/mstars	recno=45351
0.62	3.50E-15	1.44E-17	V/154/sdss16	-c=070.411761 +25.940764,eq=ICRS&-c.rs=0.004
0.62	3.50E-15	1.44E-17	IV/34/epic	ID=248018164&-c=070.411763 +25.940765,eq=J2000&-c.rs=0.004
0.62	4.74E-15	2.45E-16	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.64	5.81E-15	2.20E-15	I/305/out	GSC2.3===N9RV004914&-c=070.411814 +25.940912,eq=J2000&-c.rs=0.00
0.67	1.28E-15	1.11E-16	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.67	5.48E-15		J/AJ/162/110/table1	recno=432
0.67	5.52E-15	1.34E-16	II/366/catv2021	recno=518426
0.67	5.66E-15	1.34E-16	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.67	9.98E-15		I/337/gaia	-c=070.4118028781 +25.9406807597,eq=ICRS&-c.rs=0.004
0.67	2.33E-14	1.60E-15	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.75	1.06E-14	1.60E-16	J/AJ/156/241/table4	recno=2882736
0.75	1.34E-14	3.21E-16	II/349/ps1	-c=070.411801850 +25.940684730,eq=J2000&-c.rs=0.004
0.76	1.90E-14	1.14E-15	I/350/gaiaedr3	-c=070.41180463045 +25.94067562056,eq=ICRS&-c.rs=0.004
0.76	1.03E-14	3.93E-17	V/154/sdss16	-c=070.411754 +25.940758,eq=ICRS&-c.rs=0.004
0.76	1.04E-14	3.93E-17	V/154/sdss16	-c=070.411761 +25.940764,eq=ICRS&-c.rs=0.004
0.76	1.04E-14	3.93E-17	J/ApJS/253/19/mstars	recno=45351
0.76	1.04E-14	3.93E-17	IV/34/epic	ID=248018164&-c=070.411763 +25.940765,eq=J2000&-c.rs=0.004
0.76	1.32E-14	3.14E-16	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.77	1.77E-14	1.32E-15	I/345/gaia2	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004
0.78	1.34E-14	5.28E-15	I/305/out	GSC2.3===N9RV004914&-c=070.411814 +25.940912,eq=J2000&-c.rs=0.00

	λ	$\nu F(\nu)$	error	Vizier table	Vizier ID	
	(μm)	(Wm^{-2})	(Wm^{-2})			
1						61
2						62
3	0.79	5.66E-15		J/MNRAS/444/1157/table2	recno=133	63
4	0.87	1.85E-14	1.14E-15	J/AJ/156/241/table4	recno=2882736	64
5	0.87	2.62E-14	4.85E-16	II/349/ps1	-c=070.411801850 +25.940684730,eq=J2000&-c.rs=0.004	65
6	0.88	3.37E-14	3.40E-17	II/319/gcs9	-c=070.411794 +25.940742,eq=J2000&-c.rs=0.004	66
7	0.90	2.51E-14	4.65E-16	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004	67
8	0.90	2.59E-14	9.97E-17	V/154/sdss16	-c=070.411754 +25.940758,eq=ICRS&-c.rs=0.004	68
9	0.90	2.59E-14	9.97E-17	V/154/sdss16	-c=070.411761 +25.940764,eq=ICRS&-c.rs=0.004	69
10	0.90	2.62E-14	9.97E-17	IV/34/epic	ID=248018164&-c=070.411763 +25.940765,eq=J2000&-c.rs=0.004	70
11	0.96	3.28E-14	9.37E-16	J/AJ/156/241/table4	recno=2882736	71
12	0.96	4.69E-14	2.19E-15	II/349/ps1	-c=070.411801850 +25.940684730,eq=J2000&-c.rs=0.004	72
13	1.03	6.55E-14	0.00E+00	II/319/gcs9	-c=070.411794 +25.940742,eq=J2000&-c.rs=0.004	73
14	1.24	6.94E-14		I/297/out	NOMAD1==1159-0059642&-c=070.4117639 +25.9409889,eq=J2000&-c.rs=	74
15	1.24	7.02E-14	1.45E-15	II/332/c2d	recno=5309093	75
16	1.25	1.13E-13	0.00E+00	II/319/gcs9	-c=070.411794 +25.940742,eq=J2000&-c.rs=0.004	76
17	1.25	7.03E-14	1.44E-15	II/246/out	2MASS===04413882+2556267 &-c=070.411763 +25.940765,eq=J2000&-c.r	77
18	1.25	7.15E-14	7.19E-16	II/246/out	2MASS===04413882+2556267 &-c=070.411763 +25.940765,eq=J2000&-c.r	78
19	1.63	1.71E-13	3.49E-15	II/246/out	2MASS===04413882+2556267 &-c=070.411763 +25.940765,eq=J2000&-c.r	79
20	1.63	1.73E-13	9.20E-16	II/246/out	2MASS===04413882+2556267 &-c=070.411763 +25.940765,eq=J2000&-c.r	80
21	1.65	1.63E-13	3.27E-15	II/368/sstsl2	-c=070.4117764 +25.9407545,eq=J2000&-c.rs=0.004	81
22	1.65	1.65E-13	3.45E-15	II/332/c2d	recno=5309093	82
23	1.65	1.66E-13		II/338/catalog	recno=38622	83
24	1.65	1.70E-13	3.45E-15	I/317/sample	PPMXL=3103192842720665194&-c=070.411801 +25.940901,eq=J2000&-c.r	84
25	1.65	1.70E-13		I/297/out	NOMAD1==1159-0059642&-c=070.4117639 +25.9409889,eq=J2000&-c.rs=	85
26	2.16	1.90E-13	2.77E-15	II/368/sstsl2	-c=070.4117764 +25.9407545,eq=J2000&-c.rs=0.004	86
27	2.16	1.93E-13	2.77E-15	II/332/c2d	recno=5309093	87
28	2.16	1.95E-13	2.77E-15	I/317/sample	PPMXL=3103192842720665194&-c=070.411801 +25.940901,eq=J2000&-c.r	88
29	2.19	1.86E-13	2.74E-15	II/246/out	2MASS===04413882+2556267 &-c=070.411763 +25.940765,eq=J2000&-c.r	89
30	2.19	1.89E-13	1.37E-15	II/246/out	2MASS===04413882+2556267 &-c=070.411763 +25.940765,eq=J2000&-c.r	90
31	2.20	5.45E-14	0.00E+00	II/316/gps6	-c=070.411786 +25.940733,eq=ICRS&-c.rs=0.004	91
32	2.20	9.40E-14		II/319/gcs9	-c=070.411794 +25.940742,eq=J2000&-c.rs=0.004	92
33	2.20	1.59E-13		II/316/gps6	-c=070.411786 +25.940733,eq=ICRS&-c.rs=0.004	93
34	2.20	2.08E-13		II/316/gps6	-c=070.411786 +25.940733,eq=ICRS&-c.rs=0.004	94
35	3.35	1.40E-13	2.68E-15	II/365/catwise	-c=070.4118218 +25.9406836,eq=ICRS&-c.rs=0.004	95
36	3.35	1.45E-13	2.68E-15	II/368/sstsl2	-c=070.4117764 +25.9407545,eq=J2000&-c.rs=0.004	96
37	3.35	1.47E-13	2.68E-15	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004	97
38	3.35	1.49E-13	0.00E+00	II/363/unwise	-c=070.4118104 +25.9407152,eq=J2000&-c.rs=0.004	98
39	3.35	1.50E-13		II/338/catalog	recno=38622	99
40	3.35	1.51E-13	3.58E-15	II/311/wise	WISE===J044138.82+255626.7&-c=070.411789 +25.940759,eq=J2000&-c.	100
41	3.55	9.80E-14	6.76E-15	II/332/c2d	recno=5309093	101
42	3.55	1.20E-13	5.91E-15	J/ApJS/186/259/known	recno=206	102
43	3.55	1.25E-13	2.53E-15	J/ApJ/784/126/table1	recno=346	103
44	4.49	9.61E-14	4.67E-15	J/ApJS/186/259/known	recno=206	104
45	4.49	1.06E-13	6.01E-15	II/332/c2d	recno=5309093	105
46	4.49	1.08E-13	2.00E-15	J/ApJ/784/126/table1	recno=346	106
47	4.60	1.15E-13	1.30E-15	II/365/catwise	-c=070.4118218 +25.9406836,eq=ICRS&-c.rs=0.004	107
48	4.60	1.19E-13	0.00E+00	II/363/unwise	-c=070.4118104 +25.9407152,eq=J2000&-c.rs=0.004	108
49	4.60	1.23E-13	1.96E-15	II/368/sstsl2	-c=070.4117764 +25.9407545,eq=J2000&-c.rs=0.004	109
50	4.60	1.25E-13	1.96E-15	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-c.rs=0.004	110
51	4.60	1.27E-13	1.96E-15	II/311/wise	WISE===J044138.82+255626.7&-c=070.411789 +25.940759,eq=J2000&-c.	111
52	4.60	1.28E-13	2.61E-15	J/ApJ/784/126/table1	recno=346	112
53	4.60	1.28E-13		II/338/catalog	recno=38622	113
54	5.73	8.47E-14	3.66E-15	J/ApJS/186/259/known	recno=206	114
55	5.73	9.73E-14	2.62E-15	J/ApJ/784/126/table1	recno=346	115
56	5.73	1.06E-13	0.00E+00	II/368/sstsl2	-c=070.4117764 +25.9407545,eq=J2000&-c.rs=0.004	116
57	5.73	1.30E-13	6.28E-15	II/332/c2d	recno=5309093	117
58	7.87	9.29E-14	4.19E-15	J/ApJS/186/259/known	recno=206	118
59						119
60						120

λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID
7.87	1.01E-13	2.67E-15	J/ApJ/784/126/table1	recno=346
7.87	1.07E-13	0.00E+00	II/368/sstsl2	-c=070.4117764 +25.9407545,eq=J2000&-c.rs=0.004
7.87	1.61E-13	9.90E-15	II/332/c2d	recno=5309093
8.61	1.25E-13	4.87E-15	II/338/catalog	recno=38622
11.56	1.11E-13	1.04E-15	J/AJ/158/54/table1	recno=414
11.56	1.11E-13	1.30E-15	II/328/allwise	AllWISE===J044138.83+255626.6&-c=070.4117932
				+25.9407276,eq=J200
11.56	1.11E-13	1.30E-15	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-
				c.rs=0.004
11.56	1.12E-13	1.04E-15	J/ApJ/784/126/table1	recno=346
11.56	1.12E-13	1.30E-15	II/311/wise	WISE===J044138.82+255626.7&-c=070.411789
				+25.940759,eq=J2000&-c.
11.56	1.19E-13	1.30E-15	II/368/sstsl2	-c=070.4117764 +25.9407545,eq=J2000&-c.rs=0.004
11.56	1.23E-13		II/338/catalog	recno=38622
11.59	1.40E-13		II/338/catalog	recno=38622
11.59	1.48E-13		II/338/catalog	recno=38622
18.39	1.56E-13	5.22E-15	II/338/catalog	recno=38622
22.09	1.72E-13	2.71E-15	II/368/sstsl2	-c=070.4117764 +25.9407545,eq=J2000&-c.rs=0.004
22.09	1.75E-13	2.71E-15	I/353/gsc242	-c=070.41180397042 +25.94067833689,eq=ICRS&-
				c.rs=0.004
22.09	1.76E-13	1.36E-15	J/ApJ/784/126/table1	recno=346
22.09	1.78E-13	2.71E-15	II/311/wise	WISE===J044138.82+255626.7&-c=070.411789
				+25.940759,eq=J2000&-c.
22.09	1.79E-13		II/338/catalog	recno=38622
23.67	1.61E-13	1.52E-14	II/332/c2d	recno=5309093
23.67	1.63E-13	6.33E-15	J/ApJ/784/126/table1	recno=346
23.67	1.67E-13	0.00E+00	II/368/sstsl2	-c=070.4117764 +25.9407545,eq=J2000&-c.rs=0.004
23.67	6.46E-12	2.41E-13	J/ApJ/836/34/table2	recno=780
23.88	1.91E-13		II/338/catalog	recno=38622
23.88	1.95E-13		II/338/catalog	recno=38622
61.85	1.33E-13		II/338/catalog	recno=38622
61.85	1.40E-13		II/338/catalog	recno=38622
70.00	1.23E-13	2.14E-15	J/A+A/688/A203/bshrcds	recno=5342
70.00	1.24E-13	2.57E-14	J/ApJ/849/63/ysos	recno=109
71.42	7.47E-14	1.51E-14	J/ApJS/186/259/known	recno=206
71.42	8.86E-14	8.40E-15	II/332/c2d	recno=5309093
100.00	8.99E-14	1.80E-14	J/ApJ/849/63/ysos	recno=109
101.95	1.71E-13		II/338/catalog	recno=38622
101.95	2.36E-13		II/338/catalog	recno=38622
155.90	3.79E-14	7.69E-15	J/ApJS/186/259/known	recno=206
160.00	4.87E-14	9.37E-15	J/ApJ/849/63/ysos	recno=109
249.99	1.56E-14	3.60E-15	J/ApJ/849/63/ysos	recno=109
249.99	1.73E-14	3.60E-16	VIII/112/spsc250	recno=263696
249.99	1.75E-14	2.40E-16	VIII/112/spsc250	recno=263696
249.99	1.93E-14	2.40E-16	VIII/112/spsc250	recno=263696
249.99	1.95E-14	3.60E-16	VIII/112/spsc250	recno=263696
363.00	5.78E-15	8.26E-16	J/ApJ/849/63/ysos	recno=109
886.96	2.00E-16	2.84E-17	J/ApJ/771/129/table2	recno=171
1300.00	5.88E-17	5.07E-18	J/ApJ/872/158/table4	recno=176
1332.41	5.74E-17	4.95E-18	J/ApJ/771/129/table2	recno=171

TABLE 4. Data points on Figure 3 for JH 223 from Vizier Photometry viewer

λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID
0.34	6.83E-16	1.13E-17	II/370/xmmom5s	recno=1493547
0.34	6.84E-16	1.13E-17	II/356/xmmom41s	recno=1404279
0.35	8.49E-16	1.62E-17	V/154/sdss16	-c=070.206253 +25.855252,eq=ICRS&-c.rs=0.004
0.35	8.60E-16	1.70E-17	I/353/gsc242	-c=070.20631586592 +25.85518403387,eq=ICRS&-
				c.rs=0.004
0.35	8.69E-16	1.70E-17	IV/38/tic	-c=070.20629490024 +25.85526855322,eq=J2000&-
				c.rs=0.004
0.35	9.80E-16	1.70E-17	V/154/sdss16	-c=070.206253 +25.855252,eq=ICRS&-c.rs=0.004
0.35	9.88E-16	1.70E-17	V/154/sdss16	-c=070.206247 +25.855259,eq=ICRS&-c.rs=0.004
0.40	2.08E-13		I/358/varisum	-c= 70.20631650736 +25.85518131742,eq=ICRS&-
				c.rs=0.004
0.44	2.96E-15	1.23E-15	I/305/out	GSC2.3==N9RV000756&-c=070.206325
				+25.855384,eq=J2000&-c.rs=0.00

	λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID	
1						61
2						62
3	0.44	5.43E-15		II/336/apass9	-c=070.206175 +25.855062,eq=J2000&-c.rs=0.004	63
4	0.47	6.02E-15	2.33E-15	I/305/out	GSC2.3===N9RV000756&-c=070.206325	64
5					+25.855384,eq=J2000&-c.rs=0.00	65
6	0.48	7.10E-15		J/AJ/156/241/table4	recno=2879389	66
7	0.48	7.73E-15	1.26E-16	II/349/ps1	-c=070.206312620 +25.855188720,eq=J2000&-c.rs=0.004	67
8	0.48	5.47E-15	2.49E-17	IV/38/tic	-c=070.20629490024 +25.85526855322,eq=J2000&-c.rs=0.004	68
9	0.48	5.48E-15	2.49E-17	V/154/sdss16	-c=070.206253 +25.855252,eq=ICRS&-c.rs=0.004	69
10	0.48	6.16E-15	2.49E-17	V/154/sdss16	-c=070.206253 +25.855252,eq=ICRS&-c.rs=0.004	70
11	0.48	6.18E-15	2.49E-17	V/154/sdss16	-c=070.206247 +25.855259,eq=ICRS&-c.rs=0.004	71
12	0.48	7.21E-15	5.60E-16	II/336/apass9	-c=070.206175 +25.855062,eq=J2000&-c.rs=0.004	72
13	0.48	7.71E-15	1.24E-16	I/353/gsc242	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	73
14	0.50	1.08E-14	2.38E-16	I/350/gaiaedr3	-c=070.20631650736 +25.85518131742,eq=ICRS&-c.rs=0.004	74
15	0.50	1.04E-14	2.97E-16	I/345/gaia2	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	75
16	0.55	8.61E-15	1.73E-15	IV/38/tic	-c=070.20629490024 +25.85526855322,eq=J2000&-c.rs=0.004	76
17					-c=070.206175 +25.855062,eq=J2000&-c.rs=0.004	77
18	0.55	1.33E-14		II/336/apass9	-c=070.20631650736 +25.85518131742,eq=ICRS&-c.rs=0.004	78
19	0.58	3.82E-14	2.57E-16	I/350/gaiaedr3	recno=2879389	79
20	0.61	2.38E-14		J/AJ/156/241/table4	-c=070.206312620 +25.855188720,eq=J2000&-c.rs=0.004	80
21	0.61	2.47E-14	1.47E-16	II/349/ps1	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	81
22	0.62	3.51E-14	2.89E-16	I/345/gaia2	-c=070.206253 +25.855252,eq=ICRS&-c.rs=0.004	82
23	0.62	2.22E-14	9.60E-17	V/154/sdss16	-c=070.206247 +25.855259,eq=ICRS&-c.rs=0.004	83
24	0.62	2.23E-14	9.60E-17	V/154/sdss16	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	84
25	0.62	2.43E-14	1.44E-16	I/353/gsc242	-c=070.20629490024 +25.85526855322,eq=J2000&-c.rs=0.004	85
26	0.62	2.46E-14	1.44E-16	IV/38/tic	-c=070.206175 +25.855062,eq=J2000&-c.rs=0.004	86
27	0.62	2.58E-14	8.64E-16	II/336/apass9	GSC2.3===N9RV000756&-c=070.206325	87
28	0.64	3.07E-14	1.19E-14	I/305/out	+25.855384,eq=J2000&-c.rs=0.00	88
29	0.67	2.28E-15		J/AJ/166/218/table1	recno=22809	89
30	0.67	6.68E-15	1.78E-16	I/353/gsc242	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	90
31	0.67	6.82E-15		J/AJ/166/218/table1	recno=22809	91
32	0.67	2.97E-14		J/ApJ/917/23/table2	recno=27491	92
33	0.67	2.97E-14	2.23E-16	I/353/gsc242	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	93
34	0.67	3.08E-14		J/ApJ/917/23/table1	recno=28207	94
35	0.67	3.08E-14		III/286/catalog	recno=108605	95
36	0.67	3.55E-14		I/337/gaia	-c=070.2063157402 +25.8551866093,eq=ICRS&-c.rs=0.004	96
37	0.67	9.49E-14	2.23E-15	I/353/gsc242	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	97
38	0.67	9.76E-14		J/AJ/166/218/table1	recno=22809	98
39	0.75	4.21E-14		J/AJ/156/241/table4	recno=2879389	99
40	0.75	5.93E-14		II/349/ps1	-c=070.206312620 +25.855188720,eq=J2000&-c.rs=0.004	100
41	0.76	7.28E-14	1.57E-15	I/350/gaiaedr3	-c=070.20631650736 +25.85518131742,eq=ICRS&-c.rs=0.004	101
42	0.76	6.01E-14	3.93E-16	V/154/sdss16	-c=070.206253 +25.855252,eq=ICRS&-c.rs=0.004	102
43	0.76	6.05E-14	3.93E-16	V/154/sdss16	-c=070.206247 +25.855259,eq=ICRS&-c.rs=0.004	103
44	0.76	6.83E-14	3.93E-16	IV/38/tic	-c=070.20629490024 +25.85526855322,eq=J2000&-c.rs=0.004	104
45	0.76	8.05E-14	4.32E-15	II/336/apass9	-c=070.206175 +25.855062,eq=J2000&-c.rs=0.004	105
46	0.77	7.18E-14	1.94E-15	I/345/gaia2	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	106
47	0.78	1.22E-13	4.82E-14	I/305/out	GSC2.3===N9RV000756&-c=070.206325	107
48	0.87	6.44E-14		J/AJ/156/241/table4	+25.855384,eq=J2000&-c.rs=0.00	108
49	0.87	1.03E-13		II/349/ps1	recno=2879389	109
50	0.88	1.08E-13	0.00E+00	II/319/gcs9	-c=070.206312620 +25.855188720,eq=J2000&-c.rs=0.004	110
51	0.90	1.12E-13	3.32E-16	V/154/sdss16	-c=070.206305 +25.855240,eq=J2000&-c.rs=0.004	111
52	0.90	1.13E-13	3.32E-16	J/ApJS/253/19/mstars	-c=070.206253 +25.855252,eq=ICRS&-c.rs=0.004	112
53	0.90	1.14E-13	3.32E-16	IV/38/tic	recno=334526	113
54	0.90	1.17E-13	3.32E-16	V/154/sdss16	-c=070.20629490024 +25.85526855322,eq=J2000&-c.rs=0.004	114
55	0.90	1.19E-13	3.32E-16	V/154/sdss16	-c=070.206247 +25.855259,eq=ICRS&-c.rs=0.004	115
56	0.96	7.84E-14		J/AJ/156/241/table4	-c=070.206253 +25.855252,eq=ICRS&-c.rs=0.004	116
57					recno=2879389	117
58						118
59						119
60						120

	λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID	
1						61
2						62
3	0.96	1.28E-13	4.69E-15	II/349/ps1	-c=070.206312620 +25.855188720,eq=J2000&-c.rs=0.004	63
4	1.03	1.17E-13	0.00E+00	II/319/gcs9	-c=070.206305 +25.855240,eq=J2000&-c.rs=0.004	64
5	1.24	1.91E-13	4.11E-15	II/368/sstsl2	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	65
6	1.24	1.91E-13		I/297/out	NOMAD1===1158-0059949&-c=070.2062519	66
7	1.24	1.93E-13	4.11E-15	II/332/c2d	+25.8552747,eq=J2000&-c.rs=	67
8	1.25	1.35E-13	2.40E-16	II/319/gcs9	recno=5236589	68
9	1.25	1.94E-13	4.08E-15	II/246/out	-c=070.206305 +25.855240,eq=J2000&-c.rs=0.004	69
10	1.25	2.06E-13	2.16E-15	II/246/out	2MASS===04404950+2551191 &-c=070.206284	70
11					+25.855328,eq=J2000&-c.r	71
12	1.63	2.06E-13	5.52E-15	II/246/out	2MASS===04404950+2551191 &-c=070.206284	72
13	1.63	2.17E-13	3.68E-15	II/246/out	+25.855328,eq=J2000&-c.r	73
14					2MASS===04404950+2551191 &-c=070.206284	74
15	1.65	1.96E-13	5.45E-15	II/368/sstsl2	+25.855328,eq=J2000&-c.r	75
16	1.65	2.00E-13	5.45E-15	II/332/c2d	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	76
17	1.65	2.05E-13		I/297/out	recno=5236589	77
18	2.16	1.45E-13	2.77E-15	II/368/sstsl2	NOMAD1===1158-0059949&-c=070.2062519	78
19	2.16	1.47E-13	2.77E-15	II/332/c2d	+25.8552747,eq=J2000&-c.rs=	79
20	2.16	1.50E-13	2.77E-15	I/317/sample	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	80
21	2.19	1.42E-13	2.74E-15	II/246/out	recno=5236589	81
22					PPMXL=3103050302883991366&-c=070.206291	82
23	2.19	1.46E-13	1.37E-15	II/246/out	+25.855327,eq=J2000&-c.r	83
24	2.20	1.04E-13	1.36E-16	II/316/gps6	2MASS===04404950+2551191 &-c=070.206284	84
25	2.20	1.16E-13		II/316/gps6	+25.855328,eq=J2000&-c.r	85
26	2.20	1.17E-13		II/316/gps6	2MASS===04404950+2551191 &-c=070.206284	86
27	3.35	7.19E-14	0.00E+00	II/363/unwise	+25.855328,eq=J2000&-c.r	87
28	3.35	7.19E-14	1.52E-15	II/368/sstsl2	-c=070.206302 +25.855240,eq=ICRS&-c.rs=0.004	88
29	3.35	7.23E-14	8.05E-16	II/365/catwise	-c=070.206302 +25.855240,eq=ICRS&-c.rs=0.004	89
30	3.35	7.28E-14	1.34E-15	J/AJ/158/54/table1	-c=070.2062786 +25.8552530,eq=J2000&-c.rs=0.004	90
31	3.35	7.29E-14	1.52E-15	I/353/gsc242	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	91
32	3.35	7.55E-14	1.43E-15	J/ApJ/784/126/table1	-c=070.2062953 +25.8552378,eq=ICRS&-c.rs=0.004	92
33	3.35	7.60E-14	1.61E-15	II/311/wise	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	93
34	3.55	4.57E-14	0.00E+00	II/368/sstsl2	recno=404	94
35	3.55	5.65E-14	4.39E-15	II/332/c2d	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	95
36	3.55	6.51E-14	3.04E-15	J/ApJS/186/259/known	recno=338	96
37	3.55	6.76E-14	1.27E-15	J/ApJ/784/126/table1	WISE===J044049.50+255119.0&-c=070.206275	97
38	4.49	3.07E-14	0.00E+00	II/368/sstsl2	+25.855304,eq=J2000&-c.	98
39	4.49	4.28E-14	2.87E-15	II/332/c2d	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	99
40	4.49	4.35E-14	2.00E-15	J/ApJS/186/259/known	recno=5236589	100
41	4.49	4.64E-14	8.67E-16	J/ApJ/784/126/table1	recno=200	101
42	4.60	4.29E-14	0.00E+00	II/363/unwise	recno=338	102
43	4.60	4.43E-14	3.91E-16	II/365/catwise	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	103
44	4.60	4.46E-14	8.47E-16	II/368/sstsl2	-c=070.2062786 +25.8552530,eq=J2000&-c.rs=0.004	104
45	4.60	4.54E-14	8.47E-16	I/353/gsc242	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	105
46	4.60	4.55E-14	8.47E-16	J/AJ/158/54/table1	-c=070.20631586592 +25.85518403387,eq=ICRS&-c.rs=0.004	106
47	4.60	4.72E-14	8.47E-16	J/ApJ/784/126/table1	recno=404	107
48	4.60	4.74E-14	9.12E-16	II/311/wise	recno=338	108
49	5.73	2.90E-14	1.73E-15	II/332/c2d	WISE===J044049.50+255119.0&-c=070.206275	109
50	5.73	2.92E-14	0.00E+00	II/368/sstsl2	+25.855304,eq=J2000&-c.	110
51	5.73	2.93E-14	7.85E-16	J/ApJ/784/126/table1	recno=5236589	111
52	5.73	3.04E-14	1.41E-15	J/ApJS/186/259/known	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	112
53	7.87	1.96E-14	9.14E-16	J/ApJS/186/259/known	recno=338	113
54	7.87	1.97E-14	0.00E+00	II/368/sstsl2	recno=200	114
55	7.87	2.01E-14	5.71E-16	J/ApJ/784/126/table1	recno=200	115
56	7.87	2.07E-14	1.07E-15	II/332/c2d	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	116
57	11.56	1.09E-14	1.82E-16	I/353/gsc242	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	117
58	11.56	1.09E-14	1.56E-16	II/311/wise	recno=338	118
59	11.56	1.10E-14	2.07E-16	J/ApJ/784/126/table1	+25.855304,eq=J2000&-c.	119
60	11.56	1.16E-14	1.82E-16	II/368/sstsl2	recno=338	120
	22.09	8.59E-15	3.12E-16	II/368/sstsl2	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	
	22.09	8.70E-15	3.26E-16	J/AJ/158/54/table1	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004	

λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID
22.09	8.73E-15	3.26E-16	II/328/allwise	AllWISE===J044049.50+255119.0&-c=070.2062877 +25.8552863,eq=J200
22.09	8.74E-15	3.26E-16	I/353/gsc242	-c=070.20631586592 +25.85518403387,eq=ICRS&- c.rs=0.004
22.09	8.86E-15	2.99E-16	II/311/wise	WISE===J044049.50+255119.0&-c=070.206275 +25.855304,eq=J2000&-c.
23.67	7.07E-15	6.84E-16	II/332/c2d	recno=5236589
23.67	7.67E-15	1.27E-17	II/368/sstsl2	-c=070.2062531 +25.8553357,eq=J2000&-c.rs=0.004
23.67	7.74E-15	2.79E-16	J/ApJ/784/126/table1	recno=338
23.67	8.02E-15	2.91E-16	J/ApJS/186/259/known	recno=200
23.67	3.06E-13	1.14E-14	J/ApJ/836/34/table2	recno=772
70.00	5.14E-15	8.57E-16	J/ApJ/849/63/ysos	recno=119
71.42	4.28E-15	8.81E-16	J/ApJS/186/259/known	recno=200
100.00	2.40E-15	6.00E-16	J/ApJ/849/63/ysos	recno=119
155.90	1.30E-15		J/ApJS/186/259/known	recno=200
849.27	2.47E-17		J/ApJ/773/168/table1	recno=109
880.01	2.38E-17		J/ApJ/751/115/table6	recno=88
886.96	2.37E-17		J/ApJ/771/129/table2	recno=165
1300.00	1.75E-18	3.00E-19	J/ApJ/872/158/table4	recno=171
1300.00	2.54E-18	2.77E-19	J/ApJ/872/158/table2	recno=45
1300.00	3.92E-18	3.23E-19	J/ApJ/872/158/table4	recno=170
1300.00	4.38E-17		J/ApJ/773/168/table1	recno=109
1332.41	3.78E-18	6.75E-19	J/A+A/663/A98/tableg1	recno=26
1332.41	6.08E-18		J/ApJ/771/129/table2	recno=165

TABLE 5. Data points on Figure 4 for XEST 07-024 from VizieR Photometry viewer

λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID
0.35	1.69E-17	5.11E-18	V/154/sdss16	-c=070.285107 +25.562459,eq=ICRS&-c.rs=0.004
0.35	1.70E-17	5.20E-18	IV/34/epic	ID=247966607&-c=070.285121 +25.562456,eq=J2000&- c.rs=0.004
0.35	1.71E-17	5.20E-18	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&- c.rs=0.004
0.35	2.26E-17	5.37E-18	V/154/sdss16	-c=070.285115 +25.562460,eq=ICRS&-c.rs=0.004
0.48	9.11E-17	1.01E-17	II/349/ps1	-c=070.284973280 +25.562431930,eq=J2000&-c.rs=0.004
0.48	4.63E-17	2.18E-18	V/154/sdss16	-c=070.285107 +25.562459,eq=ICRS&-c.rs=0.004
0.48	4.65E-17	2.24E-18	IV/34/epic	ID=247966607&-c=070.285121 +25.562456,eq=J2000&- c.rs=0.004
0.48	4.76E-17	2.24E-18	V/154/sdss16	-c=070.285115 +25.562460,eq=ICRS&-c.rs=0.004
0.48	9.02E-17	9.95E-18	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&- c.rs=0.004
0.50	1.97E-16	1.01E-17	I/350/gaiaedr3	-c=070.28495543413 +25.56243428514,eq=ICRS&- c.rs=0.004
0.50	1.97E-16	1.01E-17	I/355/gaiadr3	-c=070.28495543413 +25.56243428514,eq=ICRS&- c.rs=0.004
0.50	2.03E-16	8.32E-18	I/345/gaia2	-c=070.28496069846 +25.56243415687,eq=ICRS&- c.rs=0.004
0.58	1.19E-15	5.15E-18	I/350/gaiaedr3	-c=070.28495543413 +25.56243428514,eq=ICRS&- c.rs=0.004
0.58	1.23E-15	5.15E-18	I/355/gaiadr3	-c=070.28495543413 +25.56243428514,eq=ICRS&- c.rs=0.004
0.61	5.63E-16	4.89E-18	II/349/ps1	-c=070.284973280 +25.562431930,eq=J2000&-c.rs=0.004
0.62	1.13E-15	0.00E+00	I/345/gaia2	-c=070.28496069846 +25.56243415687,eq=ICRS&- c.rs=0.004
0.62	5.18E-16	4.80E-18	IV/34/epic	ID=247966607&-c=070.285121 +25.562456,eq=J2000&- c.rs=0.004
0.62	5.18E-16	4.80E-18	V/154/sdss16	-c=070.285107 +25.562459,eq=ICRS&-c.rs=0.004
0.62	5.23E-16	4.80E-18	V/154/sdss16	-c=070.285115 +25.562460,eq=ICRS&-c.rs=0.004
0.62	5.52E-16	4.80E-18	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&- c.rs=0.004
0.67	1.30E-16	4.90E-18	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&- c.rs=0.004
0.67	1.30E-16	4.90E-18	J/ApJ/867/105/refcat2	-c=070.28496070 +25.56243416,eq=ICRS&-c.rs=0.004
0.67	9.31E-16		J/ApJ/917/23/table1	recno=30496
0.67	9.58E-16	0.00E+00	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&- c.rs=0.004
0.67	9.58E-16	0.00E+00	IV/38/tic	-c=070.28512515484 +25.56243094699,eq=J2000&- c.rs=0.004

	λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID	
1						61
2						62
3	0.67	9.58E-16	0.00E+00	IV/39/tic82	-c=070.28512515484 +25.56243094699,eq=J2000&-	63
4					c.rs=0.004	64
5	0.67	9.58E-16	0.00E+00	J/ApJ/867/105/refcat2	-c=070.28496070 +25.56243416,eq=ICRS&-c.rs=0.004	65
6	0.67	1.21E-15		I/337/gaia	-c=070.2849710755 +25.5624316983,eq=ICRS&-	66
7					c.rs=0.004	67
8	0.67	1.21E-15	8.91E-18	I/339/hsoy	-c=070.2849441512 +25.5624735697,eq=J2000&-	68
9					c.rs=0.004	69
10	0.67	1.21E-15	8.91E-18	I/339/hsoy	-c=070.2851234416 +25.5624466616,eq=J2000&-	70
11					c.rs=0.004	71
12	0.67	3.55E-15	1.78E-17	J/ApJ/867/105/refcat2	-c=070.28496070 +25.56243416,eq=ICRS&-c.rs=0.004	72
13	0.67	3.56E-15	1.78E-17	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&-	73
14					c.rs=0.004	74
15	0.75	1.98E-15	4.01E-18	II/349/ps1	-c=070.284973280 +25.562431930,eq=J2000&-c.rs=0.004	75
16	0.76	2.64E-15	1.57E-17	I/350/gaiaedr3	-c=070.28495543413 +25.56243428514,eq=ICRS&-	76
17					c.rs=0.004	77
18	0.76	2.64E-15	1.57E-17	I/355/gaiadr3	-c=070.28495543413 +25.56243428514,eq=ICRS&-	78
19					c.rs=0.004	79
20	0.76	1.92E-15	1.18E-17	V/154/sdss16	-c=070.285107 +25.562459,eq=ICRS&-c.rs=0.004	80
21	0.76	1.93E-15	1.18E-17	V/154/sdss16	-c=070.285115 +25.562460,eq=ICRS&-c.rs=0.004	81
22	0.76	1.94E-15	1.18E-17	IV/34/epic	ID=247966607&-c=070.285121 +25.562456,eq=J2000&-	82
23					c.rs=0.004	83
24	0.76	1.95E-15	3.93E-18	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&-	84
25					c.rs=0.004	85
26	0.77	2.69E-15	1.55E-17	I/345/gaia2	-c=070.28496069846 +25.56243415687,eq=ICRS&-	86
27					c.rs=0.004	87
28	0.87	4.12E-15	0.00E+00	II/349/ps1	-c=070.284973280 +25.562431930,eq=J2000&-c.rs=0.004	88
29	0.88	4.45E-15	0.00E+00	II/319/gcs9	-c=070.285011 +25.562462,eq=J2000&-c.rs=0.004	89
30	0.90	3.96E-15	0.00E+00	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&-	90
31					c.rs=0.004	91
32	0.90	4.92E-15	3.32E-17	V/154/sdss16	-c=070.285115 +25.562460,eq=ICRS&-c.rs=0.004	92
33	0.90	4.92E-15	3.32E-17	V/154/sdss16	-c=070.285107 +25.562459,eq=ICRS&-c.rs=0.004	93
34	0.90	4.95E-15	3.32E-17	IV/34/epic	ID=247966607&-c=070.285121 +25.562456,eq=J2000&-	94
35					c.rs=0.004	95
36	0.96	6.59E-15	3.12E-17	II/349/ps1	-c=070.284973280 +25.562431930,eq=J2000&-c.rs=0.004	96
37	1.03	7.74E-15	2.91E-17	II/319/gcs9	-c=070.285011 +25.562462,eq=J2000&-c.rs=0.004	97
38	1.24	1.27E-14	2.90E-16	II/368/sstsl2	-c=070.2850393 +25.5624436,eq=J2000&-c.rs=0.004	98
39	1.24	1.28E-14		I/297/out	NOMAD1===1155-0059400&-c=070.2847000	99
40					+25.5625917,eq=J2000&-c.rs=	100
41	1.24	1.28E-14	2.90E-16	I/317/sample	PPMXL=3103086006484443817&-c=070.285025	101
42					+25.562486,eq=J2000&-c.r	102
43	1.24	1.28E-14	2.90E-16	I/317/sample	PPMXL=3103086006526005598&-c=070.285109	103
44					+25.562451,eq=J2000&-c.r	104
45	1.24	1.28E-14	2.90E-16	I/339/hsoy	-c=070.2849441512 +25.5624735697,eq=J2000&-	105
46					c.rs=0.004	106
47	1.24	1.28E-14	2.90E-16	I/339/hsoy	-c=070.2851234416 +25.5624466616,eq=J2000&-	107
48					c.rs=0.004	108
49	1.24	1.28E-14	2.90E-16	II/311/wise	WISE===J044108.40+253344.8&-c=070.285030	109
50					+25.562467,eq=J2000&-c.	110
51	1.24	1.28E-14	2.90E-16	II/328/allwise	AllWISE===J044108.40+253344.8&-c=070.2850171	111
52					+25.5624449,eq=J200	112
53	1.24	1.28E-14	2.90E-16	II/360/catalog	-c=070.284961 +25.562434,eq=ICRS&-c.rs=0.004	113
54	1.24	1.28E-14	2.66E-16	J/ApJ/867/105/refcat2	-c=070.28496070 +25.56243416,eq=ICRS&-c.rs=0.004	114
55	1.24	1.28E-14	2.90E-16	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&-	115
56					c.rs=0.004	116
57	1.24	1.28E-14	2.90E-16	IV/34/epic	ID=247966607&-c=070.285121 +25.562456,eq=J2000&-	117
58					c.rs=0.004	118
59	1.25	1.32E-14	2.40E-17	II/319/gcs9	-c=070.285011 +25.562462,eq=J2000&-c.rs=0.004	119
60	1.25	1.28E-14	3.12E-16	II/246/out	2MASS===04410842+2533448 &-c=070.285121	120
					+25.562456,eq=J2000&-c.r	
	1.25	1.29E-14	2.88E-16	II/246/out	2MASS===04410842+2533448 &-c=070.285121	
					+25.562456,eq=J2000&-c.r	
	1.25	1.29E-14	2.88E-16	IV/38/tic	-c=070.28512515484 +25.56243094699,eq=J2000&-	
					c.rs=0.004	
	1.25	1.29E-14	2.88E-16	IV/39/tic82	-c=070.28512515484 +25.56243094699,eq=J2000&-	
					c.rs=0.004	
	1.63	1.97E-14	5.52E-16	II/246/out	2MASS===04410842+2533448 &-c=070.285121	
					+25.562456,eq=J2000&-c.r	
	1.63	1.99E-14	3.68E-16	II/246/out	2MASS===04410842+2533448 &-c=070.285121	
					+25.562456,eq=J2000&-c.r	
	1.63	1.99E-14	3.68E-16	IV/38/tic	-c=070.28512515484 +25.56243094699,eq=J2000&-	
					c.rs=0.004	

	λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID	
1						61
2						62
3	1.63	1.99E-14	3.68E-16	IV/39/tic82	-c=070.28512515484 +25.56243094699,eq=J2000&-c.rs=0.004	63
4						64
5	1.65	1.89E-14	3.64E-16	II/368/sstsl2	-c=070.2850393 +25.5624436,eq=J2000&-c.rs=0.004	65
6	1.65	1.98E-14		I/297/out	NOMAD1===1155-0059400&-c=070.2847000	66
7					+25.5625917,eq=J2000&-c.rs=	67
8	1.65	1.98E-14	5.45E-16	I/317/sample	PPMXL=3103086006484443817&-c=070.285025	68
9					+25.562486,eq=J2000&-c.r	69
10	1.65	1.98E-14	5.45E-16	I/317/sample	PPMXL=3103086006526005598&-c=070.285109	70
11					+25.562451,eq=J2000&-c.r	71
12	1.65	1.98E-14	5.45E-16	I/339/hsoy	-c=070.2849441512 +25.5624735697,eq=J2000&-c.rs=0.004	72
13						73
14	1.65	1.98E-14	5.45E-16	I/339/hsoy	-c=070.2851234416 +25.5624466616,eq=J2000&-c.rs=0.004	74
15	1.65	1.98E-14	5.45E-16	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&-c.rs=0.004	75
16						76
17	1.65	1.98E-14	5.45E-16	II/311/wise	WISE===J044108.40+253344.8&-c=070.285030	77
18					+25.562467,eq=J2000&-c.	78
19	1.65	1.98E-14	5.45E-16	II/328/allwise	AllWISE===J044108.40+253344.8&-c=070.2850171	79
20					+25.5624449,eq=J200	80
21	1.65	1.98E-14	5.45E-16	II/360/catalog	-c=070.284961 +25.562434,eq=ICRS&-c.rs=0.004	81
22	1.65	1.98E-14	5.45E-16	IV/34/epic	ID=247966607&-c=070.285121 +25.562456,eq=J2000&-c.rs=0.004	82
23						83
24	1.65	1.98E-14	3.64E-16	J/ApJ/867/105/refcat2	-c=070.28496070 +25.56243416,eq=ICRS&-c.rs=0.004	84
25	2.16	1.44E-14	2.77E-16	II/368/sstsl2	-c=070.2850393 +25.5624436,eq=J2000&-c.rs=0.004	85
26	2.16	1.48E-14	2.77E-16	I/317/sample	PPMXL=3103086006484443817&-c=070.285025	86
27					+25.562486,eq=J2000&-c.r	87
28	2.16	1.48E-14	2.77E-16	I/317/sample	PPMXL=3103086006526005598&-c=070.285109	88
29					+25.562451,eq=J2000&-c.r	89
30	2.16	1.48E-14	2.77E-16	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&-c.rs=0.004	90
31						91
32	2.16	1.48E-14	2.77E-16	II/311/wise	WISE===J044108.40+253344.8&-c=070.285030	92
33					+25.562467,eq=J2000&-c.	93
34	2.16	1.48E-14	2.77E-16	II/328/allwise	AllWISE===J044108.40+253344.8&-c=070.2850171	94
35					+25.5624449,eq=J200	95
36	2.16	1.48E-14	2.77E-16	IV/34/epic	ID=247966607&-c=070.285121 +25.562456,eq=J2000&-c.rs=0.004	96
37						97
38	2.16	1.48E-14	2.77E-16	IV/38/tic	-c=070.28512515484 +25.56243094699,eq=J2000&-c.rs=0.004	98
39						99
40	2.16	1.48E-14	2.77E-16	IV/39/tic82	-c=070.28512515484 +25.56243094699,eq=J2000&-c.rs=0.004	100
41						101
42	2.19	1.41E-14	2.74E-16	II/246/out	2MASS===04410842+2533448 &-c=070.285121	102
43					+25.562456,eq=J2000&-c.r	103
44	2.19	1.41E-14	2.74E-16	II/246/out	2MASS===04410842+2533448 &-c=070.285121	104
45					+25.562456,eq=J2000&-c.r	105
46	2.20	1.27E-14	1.36E-17	II/319/gcs9	-c=070.285011 +25.562462,eq=J2000&-c.rs=0.004	106
47	2.20	1.30E-14	1.36E-17	II/316/gps6	-c=070.285001 +25.562460,eq=ICRS&-c.rs=0.004	107
48	2.20	1.30E-14	1.36E-17	II/316/gps6	-c=070.285001 +25.562460,eq=ICRS&-c.rs=0.004	108
49	2.20	1.31E-14	1.36E-17	II/316/gps6	-c=070.285001 +25.562460,eq=ICRS&-c.rs=0.004	109
50	3.35	5.42E-15	1.16E-16	II/368/sstsl2	-c=070.2850393 +25.5624436,eq=J2000&-c.rs=0.004	110
51	3.35	5.45E-15	6.26E-17	II/365/catwise	-c=070.2849803 +25.5624328,eq=ICRS&-c.rs=0.004	111
52	3.35	5.47E-15	1.16E-16	II/311/wise	WISE===J044108.40+253344.8&-c=070.285030	112
53					+25.562467,eq=J2000&-c.	113
54	3.35	5.49E-15	8.95E-18	II/363/unwise	-c=070.2849805 +25.5624425,eq=J2000&-c.rs=0.004	114
55	3.35	5.50E-15	1.16E-16	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&-c.rs=0.004	115
56						116
57	3.35	5.50E-15	1.16E-16	II/328/allwise	AllWISE===J044108.40+253344.8&-c=070.2850171	117
58					+25.5624449,eq=J200	118
59	3.35	5.50E-15	1.16E-16	IV/38/tic	-c=070.28512515484 +25.56243094699,eq=J2000&-c.rs=0.004	119
60						120
61	3.35	5.50E-15	1.16E-16	IV/39/tic82	-c=070.28512515484 +25.56243094699,eq=J2000&-c.rs=0.004	120

	λ (μm)	$\nu F(\nu)$ (Wm^{-2})	error (Wm^{-2})	Vizier table	Vizier ID	
1						61
2						62
3	4.60	2.39E-15	5.21E-17	IV/38/tic	-c=070.28512515484 +25.56243094699,eq=J2000&- c.rs=0.004	63
4						64
5	4.60	2.39E-15	5.21E-17	IV/39/tic82	-c=070.28512515484 +25.56243094699,eq=J2000&- c.rs=0.004	65
6	5.73	1.39E-15	1.05E-17	II/368/sstsl2	-c=070.2850393 +25.5624436,eq=J2000&-c.rs=0.004	66
7	7.87	5.71E-16	7.62E-18	II/368/sstsl2	-c=070.2850393 +25.5624436,eq=J2000&-c.rs=0.004	67
8	11.56	1.10E-16	3.94E-17	I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&- c.rs=0.004	68
9						69
10	11.56	1.10E-16	3.94E-17	II/328/allwise	AllWISE===J044108.40+253344.8&-c=070.2850171 +25.5624449,eq=J200	70
11	11.56	1.10E-16	3.94E-17	IV/38/tic	-c=070.28512515484 +25.56243094699,eq=J2000&- c.rs=0.004	71
12	11.56	1.10E-16	3.94E-17	IV/39/tic82	-c=070.28512515484 +25.56243094699,eq=J2000&- c.rs=0.004	72
13						73
14	11.56	1.17E-16	4.12E-17	II/368/sstsl2	-c=070.2850393 +25.5624436,eq=J2000&-c.rs=0.004	74
15	11.56	3.53E-16	3.63E-17	II/311/wise	WISE===J044108.40+253344.8&-c=070.285030 +25.562467,eq=J2000&-c.	75
16						76
17	22.09	3.22E-16	1.57E-16	II/311/wise	WISE===J044108.40+253344.8&-c=070.285030 +25.562467,eq=J2000&-c.	77
18	22.09	4.61E-16		II/368/sstsl2	-c=070.2850393 +25.5624436,eq=J2000&-c.rs=0.004	78
19	22.09	4.68E-16		I/353/gsc242	-c=070.28496069846 +25.56243415687,eq=ICRS&- c.rs=0.004	79
20						80
21	22.09	4.68E-16		II/328/allwise	AllWISE===J044108.40+253344.8&-c=070.2850171 +25.5624449,eq=J200	81
22	22.09	4.68E-16		IV/38/tic	-c=070.28512515484 +25.56243094699,eq=J2000&- c.rs=0.004	82
23						83
24	22.09	4.68E-16		IV/39/tic82	-c=070.28512515484 +25.56243094699,eq=J2000&- c.rs=0.004	84
25						85
26						86
27						87
28						88
29						89
30						90
31						91
32						92
33						93
34						94
35						95
36						96
37						97
38						98
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40						100
41						101
42						102
43						103
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47						107
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50						110
51						111
52						112
53						113
54						114
55						115
56						116
57						117
58						118
59						119
60						120