

617.

标题: THE INFRARED PROPERTIES OF SOURCES MATCHED IN THE WISE ALL-SKY AND HERSCHEL ATLAS SURVEYS

作者: Bond, NA (Bond, Nicholas A.); Benford, DJ (Benford, Dominic J.); Gardner, JP (Gardner, Jonathan P.); Amblard, A (Amblard, Alexandre); Fleuren, S (Fleuren, Simone); Blain, AW (Blain, Andrew W.); Dunne, L (Dunne, Loretta); Smith, DJB (Smith, Daniel J. B.); Maddox, SJ (Maddox, Steve J.); Hoyos, C (Hoyos, Carlos); Baes, M (Baes, Maarten); Bonfield, D (Bonfield, David); Bourne, N (Bourne, Nathan); Bridge, C (Bridge, Carrie); Buttiglione, S (Buttiglione, Sara); Cava, A (Cava, Antonio); Clements, D (Clements, David); Cooray, A (Cooray, Asantha); Dariush, A (Dariush, Ali); de Zotti, G (de Zotti, Gianfranco); Driver, S (Driver, Simon); Dye, S (Dye, Simon); Eales, S (Eales, Steve); Eisenhardt, P (Eisenhardt, Peter); Hopwood, R (Hopwood, Rosalind); Ibar, E (Ibar, Edo); Ivison, RJ (Ivison, Rob J.); Jarvis, MJ (Jarvis, Matt J.); Kelvin, L (Kelvin, Lee); Robotham, ASG (Robotham, Aaron S. G.); Temi, P (Temi, Pasquale); Thompson, M (Thompson, Mark); Tsai, CW (Tsai, Chao-Wei); van der Werf, P (van der Werf, Paul); Wright, EL (Wright, Edward L.); Wu, JW (Wu, Jingwen); Yan, L (Yan, Lin)

来源出版物: ASTROPHYSICAL JOURNAL LETTERS 卷: 750 期: 1 文献号: L18 DOI: 10.1088/2041-8205/750/1/L18 出版年: MAY 1 2012

在 Web of Science 中的被引频次: 0

被引频次合计: 0

引用的参考文献数: 40

摘要: We describe the infrared properties of sources detected over similar to  $36 \text{ deg}^2$  of sky in the GAMA 15 hr equatorial field, using data from both the Herschel Astrophysical Terahertz Large-Area Survey (H-ATLAS) and Wide-field Infrared Survey (WISE). With 5 sigma point-source depths of 34 and 0.048 mJy at 250  $\mu\text{m}$  and 3.4  $\mu\text{m}$ , respectively, we are able to identify 50.6% of the H-ATLAS sources in the WISE survey, corresponding to a surface density of similar to  $630 \text{ deg}^{-2}$ . Approximately two-thirds of these sources have measured spectroscopic or optical/near-IR photometric redshifts of  $z < 1$ . For sources with spectroscopic redshifts at  $z < 0.3$ , we find a linear correlation between the infrared luminosity at 3.4  $\mu\text{m}$  and that at 250  $\mu\text{m}$ , with  $\pm 50\%$  scatter over similar to 1.5 orders of magnitude in luminosity, similar to  $10^{9-10.5} L_{\odot}$ . By contrast, the matched sources without previously measured redshifts ( $r$  greater than or similar to 20.5) have 250-350  $\mu\text{m}$  flux density ratios which suggest either high-redshift galaxies ( $z$  greater than or similar to 1.5) or optically faint low-redshift galaxies with unusually low temperatures ( $T$  less than or similar to 20). Their small 3.4-250  $\mu\text{m}$  flux ratios favor a high-redshift galaxy population, as only the most actively star-forming galaxies at low redshift (e.g., Lambda rp 220) exhibit comparable flux density ratios. Furthermore, we find a relatively large active galactic nucleus fraction (similar to 30%) in a 12  $\mu\text{m}$  flux-limited subsample of H-ATLAS sources, also consistent with there being a significant population of high-redshift sources in the no-redshift sample.

入藏号: WOS:000303039700018

语种: English

文献类型: Article

作者关键词: cosmology: observations; galaxies: general; galaxies: high-redshift; galaxies: statistics; infrared: galaxies; surveys

KeyWords Plus: ACTIVE GALACTIC NUCLEI; STAR-FORMING GALAXIES; REDSHIFT

SURVEY; DATA RELEASE; SUBMILLIMETER; PERFORMANCE; POPULATION;  
TELESCOPE; EVOLUTION; SELECTION

地址: [Bond, Nicholas A.; Benford, Dominic J.; Gardner, Jonathan P.] NASA, Goddard Space  
Flight Ctr, Cosmol Lab Code 665, Greenbelt, MD 20771 USA

[Amblard, Alexandre; Temi, Pasquale] NASA, Ames Res Ctr, Astrophys Branch, Moffett Field,  
CA 94035 USA

[Fleuren, Simone] Univ London, Sch Math Sci, London E1 4NS, England

[Blain, Andrew W.] Univ Leicester, Dept Phys & Astron, Leicester LE1 7RH, Leics, England

[Dunne, Loretta; Maddox, Steve J.; Hoyos, Carlos; Bourne, Nathan; Dye, Simon] Univ  
Nottingham, Sch Phys & Astron, Nottingham NG7 2RD, England

[Smith, Daniel J. B.; Bonfield, David; Jarvis, Matt J.; Thompson, Mark] Univ Hertfordshire, Ctr  
Astrophys Res, Sci & Technol Res Inst, Hatfield AL10 9AB, Herts, England

[Baes, Maarten] Univ Ghent, Sterrenkundig Observ, B-9000 Ghent, Belgium

[Bridge, Carrie] CALTECH, Div Phys Math & Astron, Pasadena, CA 91125 USA

[Buttiglione, Sara; de Zotti, Gianfranco] Osserv Astron Padova, INAF, I-35122 Padua, Italy

[Cava, Antonio] Univ Complutense Madrid, Dept Astrofis, Fac CC Fis, E-28040 Madrid, Spain

[Clements, David] Univ London Imperial Coll Sci Technol & Med, Blackett Lab, Astrophys Grp,  
London SW7 2AZ, England

[Cooray, Asantha] Univ Calif Irvine, Dept Phys & Astron, Irvine, CA 92697 USA

[Dariush, Ali; Hopwood, Rosalind] Univ London Imperial Coll Sci Technol & Med, Dept Phys,  
London SW7 2AZ, England

[de Zotti, Gianfranco] SISSA, I-34136 Trieste, Italy

[Driver, Simon; Kelvin, Lee; Robotham, Aaron S. G.] Univ Western Australia, Int Ctr Radio  
Astron Res ICRAR, Crawley, WA 6009, Australia

[Driver, Simon; Kelvin, Lee; Robotham, Aaron S. G.; Wu, Jingwen] Univ St Andrews, Sch Phys &  
Astron, SUPA, St Andrews KY16 9SS, Fife, Scotland

[Eales, Steve] Cardiff Univ, Sch Phys & Astron, Cardiff CF24 3AA, S Glam, Wales

[Eisenhardt, Peter] CALTECH, Jet Prop Lab, Pasadena, CA 91109 USA

[Ibar, Edo; Ivison, Rob J.] Royal Observ, UK Astron Technol Ctr, Edinburgh EH9 3HJ, Midlothian,  
Scotland

[Jarvis, Matt J.] Univ Western Cape, Dept Phys, ZA-7535 Bellville, South Africa

[Tsai, Chao-Wei] CALTECH, IPAC, Pasadena, CA 91125 USA

[van der Werf, Paul] Leiden Univ, Leiden Observ, NL-2300 RA Leiden, Netherlands

[Wright, Edward L.] UCLA Astron, Los Angeles, CA 90095 USA

[Yan, Lin] CALTECH, Spitzer Sci Ctr, Pasadena, CA 91125 USA

通讯作者地址: Bond, NA (通讯作者), NASA, Goddard Space Flight Ctr, Cosmol Lab Code 665,  
Greenbelt, MD 20771 USA

出版商: IOP PUBLISHING LTD

出版商地址: TEMPLE CIRCUS, TEMPLE WAY, BRISTOL BS1 6BE, ENGLAND

Web of Science 分类: Astronomy & Astrophysics

学科类别: Astronomy & Astrophysics

IDS 号: 929CV

ISSN: 2041-8205

29 字符的来源出版物名称缩写: ASTROPHYS J LETT

ISO 来源出版物缩写: *Astrophys. J. Lett.*  
来源出版物页码计数: 6