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Title

The environment and characteristics of low-redshift galaxies detected by the Herschel-ATLAS

Source

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Abstract

We investigate the ultraviolet and optical properties and environment of low-redshift galaxies detected in the Herschel Astrophysical Terahertz Large Area Survey (H-ATLAS) science demonstration data. We use the Sloan Digital Sky Survey seventh release and the Galaxy And Mass Assembly data base to select galaxies with mag in the redshift range 0.02 = z = 0.2 and look for their submillimetre counterparts in H-ATLAS. Our results show that at low redshift, H-ATLAS detects mainly blue/star-forming galaxies with a minor contribution from red systems which are highly obscured by dust. In addition we find that the colour of a galaxy rather than the local density of its environment determines whether it is detectable by H-ATLAS. The average dust temperature of galaxies that are simultaneously detected by both PACS and SPIRE is 25 +/- 4 K, independent of environment. This analysis provides a glimpse of the potential of the H-ATLAS data to investigate the submillimetre properties of galaxies in the local universe.