Evaluating the Fraction of Obscured Supernovæ in Luminous Infrared Galaxies with Adaptive Optics Surveys

POSTER ON-LINE

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Abstract. Despite the expectation of a high supernova rate in luminous infra-red galaxies (LIRGs), a deficit has been discovered in optical surveys that is due to high levels of extinction by dust and to issues of contrast against the bright nuclear background. Searching in the near infra-red enables observations to penetrate that dust, while using adaptive-optics achieves the resolution required to observe supernovæ close to the nuclei of those galaxies. Over the last decade multiple observing programmes using the best AO instrumentation mounted on large telscopes have accumulated a dataset of many LIRGs, and met with much greater success in discovering nuclear supernovæ. However, a significant proportion is still being missed. By using techniques to evaluate our detection efficiency in these data, and simulations of the supernovæ occuring in the galaxies, we can evaluate the nature of these transients.

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