

The Australia Telescope Large Area Survey: Measuring the AGN contribution to galaxies over cosmic time

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Abstract. The Australia Telescope Large Area Survey (ATLAS) is the widest deep radio survey ever attempted, covering $\sim 7\text{deg}^2$ across its two fields, the Chandra Deep Field South (CDFS) and the European Large Area ISO Survey South 1 Region (ELAIS-S1). ATLAS has extensive multiwavelength data, including optical, infrared and X-ray, to complement its $\sim 15\ \mu\text{Jy rms}$ 1.4 GHz radio data. At these faint radio flux densities, the proportion of AGN to star-forming galaxies (SFGs) is high, and there are likely many composite objects, which have both an AGN and ongoing star formation. In ATLAS, we estimate that the number of AGN is approximately 50%, and this proportion will change with decreasing flux density. To understand the relationship between the AGN and the host galaxy, we need to measure the contribution of the AGN to the total luminosity, and determine how this varies with the evolutionary stage of the galaxy. Here I present results exploring the AGN contribution to galaxies over cosmic time, through the use of different multiwavelength discriminants.
