

title = Ultraluminous Infrared Galaxies in the SIRTf Era*

abstract=

Ultraluminous infrared galaxies (ULIRGs), which emit quasar-like luminosities in the far-infrared part of the spectrum, are exceedingly rare in the local Universe - less than 3% of the galaxies in the IRAS Bright Galaxy Sample have luminosities above $10^{12} L_{\odot}$ and fall into this class. While the environments and properties of ULIRGs are well understood - they nearly always are interacting/merging, spiral galaxies with large, centrally concentrated reservoirs of dense molecular gas, the energy sources which heat the dust are still under debate. If galaxies were dusty at high redshifts, ULIRGs may provide us with a valuable analog to the process of galaxy building and star formation at early epochs - much of which may have thus far eluded detection at optical/UV wavelengths. SIRTf will allow us to make great strides in our understanding of ULIRGs, by (1) increasing the number of known objects over a large range in redshift, and (2) allowing a detailed study of the excitation sources via mid-infrared fine-structure and PAH emission features. We will review the most recent ground and space-based data on ULIRGs, and assess the prospects for infrared photometry and spectroscopy with SIRTf.