

# GALAXIES: THE LONG WAVELENGTH VIEW

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Far-infrared spectroscopy obtained with ISO's Long Wavelength Spectrometer probes the global conditions and content of the ionized, molecular, and dust components of the interstellar medium in galaxies. Indeed, the great diversity in the FIR spectra of galaxies is indicative of varying gas and dust content, location, and excitation along the line of sight. Far-infrared spectroscopy is not a sensitive tool for the direct detection of the very high excitation produced by the presence of the hard radiation fields characteristic of bare AGN. Instead, it is often dominated by emission from the strongest cooling lines (i.e. the [C II]158  $\mu\text{m}$  and [O I]63,146  $\mu\text{m}$  lines) of the photo-dissociation regions from which the far-infrared continuum emission is thought to arise and by the forbidden fine-structure lines from H II regions. Because it is much less affected by extinction due to dust than spectroscopy at shorter wavelengths, FIR spectroscopy can be an important tool in probing the starburst properties of the highly obscured regions often inferred to be present in infrared-bright galaxies.

In this talk I will review the results of far-infrared spectroscopic surveys of a variety of morphological types of galaxies, including dwarf, normal, starburst, ULIRG, and active galaxies. Where possible I will discuss cross-instrument studies and compare the results of mid- and far-infrared spectroscopic surveys.