

Spectroscopy of star-forming regions in external galaxies has experienced an enormous progress along the years, from aperture spectra gathered by the pioneer observers to the current space and ground-based IFS and MOS massive data.

A spectral sequence of HII regions appears now well established, governed mainly by combinations of gas metallicity, ionization parameter and stellar ionizing spectra and age adding on this some granularity due to e.g. possible local pollution, mixing of enrichment and homogeneity, as well as to different feedback processes. Gas-phase abundances derivation using different techniques provides us with fundamental clues to study the metal content and spatial distribution of galaxies, their chemical evolution and metallicity relations with fundamental macroscopic properties.