

2D SPECTROSCOPY OF GALAXIES

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Abstract. The spectrophotometric study of galaxies or other astronomical extended objects implies the sampling of two spatial (x,y) dimensions and a wavelength (λ) domain. However, currently used detectors have only two dimensions. To avoid this problem, traditional techniques have sequenced either one spatial coordinate (classical long-slit mapping) or the wavelength dimension (Fabry-Perot technique). The lack of simultaneity in the data recording inherent to these techniques is, however, a serious drawback. To overcome this problem a new technique, the integral-field spectroscopy (IFS), has recently been developed. This technique is based in the discretization of the extended image at the focal plane and its convenient re-arrangement at the entrance of the spectrograph. In this talk we present IFS concepts, techniques, and instruments with special emphasis on systems based on fiber optics.

The central regions of normal and active galaxies are obvious targets for integral-field spectrographs. We review the main observational work and discuss some results concerning the ionized gas and stellar kinematics and 2D population studies.