



PHYSICS AND ASTRONOMY SEMINAR

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“Spiral Galaxy Evolution as Seen with SpIOMM”

Abstract

Galaxies evolve through the changes that face their various components such as the gas, dust, stars, and dark matter. Gas and dust are prime ingredients for the formation of new stars, and thereafter the massive stars newly formed will quickly modify the chemical composition of galaxies. Thus, characterizing stellar generations, especially the young ones with the massive stars, is an excellent avenue to improve our understanding of how galaxies form and evolve. Nearby spiral galaxies are ideal environments for the detailed observation of star-forming regions. For that reason, my project has focused on seven neighboring spiral galaxies with various morphologies (Sb to Sd, barred and non-barred). Observations from SpIOMM (imaging Fourier transform spectrograph (FTS) of Observatoire du Mont-Mégantic) allowed me to characterize simultaneously thousands of star-forming regions within the whole disk of the galaxies, covering their spiral arms, bar, nucleus, and outer regions. The large database of spectra obtained around H α and H β is ideal to study the star-forming regions and the warm ionized medium (WIM) with a high spatial resolution (\sim 50-150 pc). This talk will focus on HII regions characterization and the effect of the presence of the WIM that surrounds them.

Friday, March 6, 2015

1:30 p.m.

Clearihue Building

Room A311