Highlights of Spanish Astrophysics VI, Proceedings of the IX Scientific Meeting of the Spanish Astronomical Society held on September 13 - 17, 2010, in Madrid, Spain. M. R. Zapatero Osorio et al. (eds.)

A OSIRIS/GTC emission-line survey of the rich cluster Cl0024+2654 at $z = 0.4$

Irene Pintos-Castro[1,2], Ricardo Pérez-Martínez[3], Miguel Sánchez-Portal[4], Jordi Cepa[1,2], and the GLACE team

[1] Instituto de Astrofśica de Canarias
[2] Departamento de Astrofśica, Universidad de La Laguna
[3] European Space Astronomy Centre (ESAC) / INSA

Abstract

In the framework of the GLACE project, we present the preliminary results of a mapping of emission lines (Hα+[NII], Hβ and [OIII]) in the rich cluster Cl0024+1654 at $z = 0.4$, using the red tunable filter of OSIRIS/GTC. This emission-line survey has been designed to detect emission-line galaxies (ELGs) whose fluxes correspond to SFR up to 2 $M_{\odot}$/yr. These observations, with $S/N \geq 3$, have a spatial coverage of at least two virial radii. Our aim is to study how galaxy properties change as a function of environment, to address the key questions about the physical processes acting upon the infalling galaxies during the course of hierarchical growth of clusters. In this poster, we describe the design of the observations and the different stages of data reduction process (image preparation, object detection and selection, flux calibration) to convert raw data obtained using TF imaging in valuable scientific information. Finally, we present a preliminary catalog of 103 star forming galaxies whose spatial distribution maps the presence of a structure falling onto the cluster core.