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Type: Oral presentation

## Analysis of two multiple cluster systems detected with SZ effect and observed with VLT/VIMOS

jeudi 11 février 2021 14:15 (15 minutes)

I will present the first analysis of VLT/VIMOS optical data of the two *Planck* detected multiple-cluster systems, PLCKG214.6+37.0 and PLCKG334.8-38.0.

These systems were discovered in 2011 in *Planck* data via their Sunyaev-Zel'dovich (SZ) signal, and their nature of triple-cluster systems was revealed by XMM-*Newton* short observations as part of a follow-up X-ray program for validation of cluster candidates.

The two systems have been the target of dedicated observations in X-rays by XMM-*Newton*, and in optical by the Visible Multi-Object Spectrograph (VIMOS), mounted on the VLT, in 2012 and 2013.

The analysis of the optical data allowed us to put strong constraints on the redshifts of the galaxies inside the three clusters, showing that the multiple-cluster system was rather a cluster pair in the foreground, and of an isolated cluster in the background.

I will show preliminary results on the galaxy properties as well as gas content of PLCKG214.6+37.0. These multiple-cluster systems are ideal laboratories for the study the fraction of baryonic (or ordinary) matter inside the largest structures of the universe that will be the focus of my research.

### Field

Cosmology

### Day constaints

**Auteur principal:** WICKER, Raphaël

**Orateur:** WICKER, Raphaël

**Classification de Session:** Talk

**Classification de thématique:** Astrophysics