

ABSTRACT ONLY

STUDYING THE CONTRIBUTION OF DUST-OBSCURED STAR FORMATION IN THE EVOLUTION OF GALAXY CLUSTERS

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Galaxy clusters are the largest and densest structures in the Universe. Therefore, studying their formation history becomes crucial to understand the formation and evolution of massive galaxies and, in general, of cosmic large-scale structure. Numerous studies, based on observational surveys and simulations, have suggested that massive clusters form the bulk of the stars in their central galaxies at $z > 2$. Consequently, to investigate their main formation epoch we need to explore higher redshifts, where these structures are not yet fully collapsed and in various stages of evolution. Studying these high-redshift massive structures in the millimeter regime is of special interest because their most massive galaxies may have formed as dust-obscured starbursts of hundreds, and probably thousands, of solar masses per year. This could make them easily detected, and therefore studied, by current single-dish submillimeter/millimeter telescopes. Here we present the latest results of ACES, our 1.1mm survey taken with the camera AzTEC towards high-redshift protocluster-candidate regions ($0.5 < z < 6.1$). These regions were selected by the presence of massive high-redshift radio galaxies in their vicinities, which is a popular technique for locating density peaks in the early Universe. The aim of this survey is to study not only the build-up of the main stellar population of galaxy clusters, but also its evolution towards $z=0$.

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