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Fuelling the star formation in brightest cluster galaxies

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Abstract content
 (Max 300 words)

I will report on an ongoing investigation aimed at constraining the formation and evolution of brightest cluster galaxies (BCGs) and the connection with the evolution of the host clusters. We use 2D and 3D spectroscopy to investigate the origin of the gas fuelling the recent star formation detected in

some BCGs by measuring their emission lines. This enables us to derive fundamental gas properties such as electron density and gas temperature, which in turn, enables us to derive accurate abundances. Our small, carefully selected, sample consists of star forming BCGs with detected H-alpha filaments, and have existing data

from the X-ray regime available, but lacks the detailed optical emission-line data that will probe the dominant ionization processes, excitation sources, morphology and kinematics of the hot gas. This, combined with the other multiwavelength data, will form a complete view of the different phases (hot and cold gas and young stars)

and how they interact in the processes of star formation and feedback detected in central galaxies in cooling flow

clusters, as well as the influence of the host cluster.

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