NAOC SEMINAR

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Understanding galaxy groups and clusters -- probes with HYENAS and The300

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Weiguang Cui obtained his PhD from Shanghai Astronomical Observatory (SHAO) in 2010. After his PhD, he worked at University of Trieste as a Marie Curie ITN fellow, University of Western Australia, Universidad Autónoma de Madrid (UAM) and University of Edinburgh as PostDocs. He is currently a Talento-CM fellow at UAM. He dedicates to using hydrodynamical simulations to understand our Universe. His research has a very broad coverage: galaxy formation, galaxy group/cluster, large-scale structure and cosmology. In his talk, he will focus on the recent results from the galaxy group project -- HYENAS and the300 galaxy cluster project, which he is currently leading.

Abstract

Galaxy groups and clusters are important observables for galaxy formation and cosmology. Using hydrodynamic simulations to reproduce them can not only review their detailed formation history, but also provide useful information on how to use their properties to constrain models and model parameters. In this talk, I will introduce both zoomed-in projects and present some of their recent interesting results. For the HYENAS project, I will focus on the missing X-ray detections of optical galaxy groups; For the300 cluster project, I will give some discussions on our recent results on mass-richness, cluster mass reconstruction with machine learning, lensing crisis and missing baryons.

All are welcome!