

## **The Dynamical Evolution of a Galaxi Cluster: the Local Effect of Dark Energy**

*Friday, 27 November 2015 12:00 (30 minutes)*

The role of Dark Energy (DE) in the long term evolution of galaxy clusters is the main topic of this talk. Recently, observational data of the outflow of galaxies in the Virgo cluster, suggest that DE can also act on a small cosmic scales, like a single galaxy cluster. By means of direct N-body we performed several simulations in which a galaxy cluster is undergo to the action of the DE force and the gravitational one induced by the gas. With our work we reproduced the so called Hubble diagram, with the aim to highlight the outflow of the galaxies lying in the outermost region of the cluster. By comparing the different simulations, our preliminary results suggest that the observed outflow of galaxies is likely due to the local effect of DE.

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**Session Classification:** Session II