

## ASTROPHYSICS SEMINAR

Thursday, 16 June 2016 at 11:00

# Fermi's view on Galaxy Clusters: 7+ years of observations but no detection yet

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**Abstract.** Galaxy clusters are the most massive virialized systems known in the Universe and are believed to have formed through large scale structure formation. They host relativistic cosmic-ray (CR) populations and are gravitationally bound by large amounts of Dark Matter (DM), both providing conditions in which high-energy gamma rays may be produced either via CR interactions with the intracluster medium or through the annihilation or decay of DM particles. Prior to the launch of the Fermi satellite, predictions were optimistic that these sources would be established as gamma-ray-bright objects by observations through its prime instrument, the Large Area Telescope (LAT). Yet, despite numerous efforts, even a single firm cluster detection is still pending, requiring us to re-evaluate the underlying physics processes. In my talk I will provide an overview and discuss recent studies carried out by the LAT collaboration aiming to discover these missing gamma rays and discuss detection prospects with respect to an extended Fermi LAT mission.

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### Additional Information

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This seminar will be given in the ISDC "B01/container" room

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