

Cosmic Ray Streaming in Galaxy Clusters

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The origin of diffuse radio emission in galaxy clusters remains an open question in astrophysics. This emission indicates the presence of cluster-wide magnetic fields and high energy cosmic ray (CR) electrons. I will discuss how the properties of the observed radio emission in clusters are shaped by different CR transport processes, namely CR streaming. I present simple numerical simulations of the Coma cluster that predict other observable signatures, such as gamma radiation, that can differentiate between models for the source of the CR electrons.

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