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Dynamical impact of magnetic fields and stratification on turbulence in massive galactic halos

Tuesday 16 August 2022 09:00 (25 minutes)

I will discuss recent theoretical work related to the impact of magnetic fields and gravitational stratification in the hot halos of massive galaxies and clusters. Specifically, I will demonstrate that even extremely weak magnetic fields can dramatically alter the feeding the supermassive black holes and the dynamics of cold gas precipitating out of the circumgalactic (CGM) and intracluster (ICM) medium. Furthermore, I will show that, contrary to textbook expectation, turbulence in the CGM/ICM should be non-Kolmogorov in nature. These findings have implications for heating of the CGM/ICM, the interpretation of observations, and for our understanding of AGN feedback in general.

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