Astrophysics Seminar

Monday, January 30, 2017

Probing the Plasma Physics and Kinematics of the Intracluster Medium with X-ray Observations and Simulations

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Since its launch in 1999, the Chandra X-ray Observatory has provided unprecedented views of the hot plasma of galaxy clusters, revealing structures such as shocks, cold fronts, and indications of gas turbulence. Before its unfortunate demise, the Hitomi mission provided the first direct measurements of gas motions in the Perseus cluster. All of these observations indicate the intracluster medium (ICM) has interesting plasma properties and is continuously stirred by gas motions large and small driven by mergers and AGN feedback. In this talk, I will present the results of a number of hydrodynamical simulations of galaxy cluster mergers and compare them to observations with a view towards constraining the plasma and kinematic properties of the ICM. I will finish my talk with a view toward future X-ray missions and what may be revealed in the cluster plasma by the combination of high spectral and spatial resolution.

3:30pm in CAS 502. *Refreshments served at 3:15pm in CAS 500.*

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Next Week

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