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Magnetic Fields, Jets, Velocities, and Cosmic Rays in Merging Galaxy Clusters (via Zoom)

Monday 15 August 2022 15:45 (25 minutes)

As evidenced by cold fronts, surface brightness fluctuations, and the observations of the Perseus Cluster by Hitomi, cool-core clusters have subsonic ("sloshing") gas motions in their cores. The same clusters typically host AGN jets and bubbles in the core region. These two processes can interact with each other in interesting ways. In this talk, I will show recent results from MHD simulations of such motions in the ICM to discuss their effects in the context of their interaction with AGN jets and bubbles, and the transport of AGN-injected cosmic rays. I will close the talk by switching gears slightly and presenting what velocity measurements we may expect from mock observations of a major merging cluster using microcalorimeters such as XRISM and Athen

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