

Baryons in the Universe 2024



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The Hot Phases of the CGM: Past, Present, and Future

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The circumgalactic medium (CGM) plays a pivotal role in every aspect of the formation and evolution of galaxies from the highest redshifts to the present day. While UV observations have made significant progress in mapping the warm gas around galaxies, the bulk of the baryons reside in the CGM in the form of tenuous, hot, X-ray-emitting gas. This hot gas can only be studied with X-ray observatories. The X-ray phase of the CGM contains a substantial fraction of baryons and also retains the imprint of physical processes such as energetic feedback from supernovae and supermassive black holes. In this presentation, I will overview our current understanding of the hot X-ray-emitting CGM based on a wide range of observational data and will briefly discuss the prospects of observing the hot phases of the CGM.

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