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Hot Gaseous Halos in Early Type Galaxies

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The hot ISM in early type galaxies (ETGs) plays a crucial role in understanding their formation and evolution. The structural features of the hot gas identified by Chandra and XMM-Newton observations point to key evolutionary mechanisms, (e.g., AGN and stellar feedback, merging history). In our X-ray Galaxy Atlas project, we systematically analyzed the archival Chandra (XMM-Newton) data of 70 (50) ETGs and produced uniform data products with spatially resolved 2D spectral maps of the hot gas from individual galaxies. Utilizing our data products, we will discuss the hot gas morphology in relation to AGN/stellar feedback and environmental effects; the hot gas global properties and scaling relations; and the possibility of the universal T profile in ETGs.

Topic

Hot and diffuse baryons

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