

The Faint Radio Relics of the Low-Mass Cluster A2108

Monday, 6 May 2024 17:19 (2 minutes)

User

Recent advancements in radio astronomy have facilitated the exploration of intriguing radio features across a wide mass range of galaxy clusters, including the lower mass ($M < 5 \times 10^{14} M_{\text{sun}}$) regime. The low mass clusters were previously overlooked due to instrumental and theoretical limitations. However, they are more sensitive to minor mergers and thus offer a unique opportunity to explore small-scale mergers and their role in forming diffuse radio structures in clusters. Radio relics are formed in the periphery of galaxy clusters from the merger-generated shock waves. However, the interplay between environmental factors and various particle acceleration mechanisms in the origin of the relics varies significantly with cluster mass and merging history. In this conference, I will present our recent findings of faint relics in the low-mass galaxy cluster Abell 2108 (A2108). A2108 is a part of our ongoing uGMRT LOW-MASS Galaxy Cluster Survey (GLOMACS), which aims to explore diffuse radio emissions in underexplored low-mass clusters. Utilizing uGMRT band-3 observations, we discovered a new faint radio relic northeast of A2108 alongside the previously detected southwestern relic. This identifies A2108 as one of the few low-mass clusters hosting double relics. I will discuss in detail about these radio relics in A2108, shedding light on their properties and the influencing factors behind their formation.

keywords

clusters, source findings, imaging

In-person or online?

in-person

Career level

Student

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Session Classification: Poster Sparklers