

P17 Analysis of 2d temperature and density structure of the merging cluster MCXC J0157.4-0550 using XMM-Newton data

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“Galaxy clusters are formed by the gravitational collapse of the universe. In order to understand the evolution of the large-scale structure of the universe, it is necessary to study the merging process of galaxy clusters. We analyze XMM-Newton data of the merging cluster MCXC J0157.4-0550 and derive the 2-dimensional temperature, density, pressure and entropy maps from the hardness ratio map. From the entropy maps, we find that this galaxy cluster merged 3 billion years ago. This galaxy cluster has a rare swirl structure in the X-ray band. Our results confirm that this structure is related to ram pressure stripping.

星系团是宇宙最大的引力形成的天体系统。研究星系团的合并过程，对理解宇宙的大尺度构造的演化尤其重要。我们使用 XMM-Newton 数据通过制成硬度比图，对合并星系团 MCXCJ0157.4-0550 的 2 维温度、密度、压力、熵图进行处理。通过 2 维熵图，我们发现星系团合并开始于 30 亿年前。该星系团在 X 射线波段存在罕见的漩涡状结构。结果显示该结构与气体的冲压剥离有关。”

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