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# A group of merging galaxies falling onto Abell 2142

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## Résumé

Galaxy clusters grow hierarchically by accreting galaxies, both individually and in groups. While simulations suggest that around 12% of infalling galaxies arrive as part of groups, observational studies of such systems during cluster infall remain rare. I will be presenting a case study of a galaxy group accreting into Abell 2142, notable for a 700 kpc long X-ray tail indicative of ram-pressure driven gas stripping. Using MaNGA integral field spectroscopy, we analyze the stellar populations, ionized gas kinematics, and star formation activity of the group’s galaxies, distinct from the tail itself. Our analysis reveals disturbed gas kinematics and suppressed star formation in the group members, consistent with preprocessing mechanisms such as tidal interactions and ram pressure. Complementary radio continuum observations show no detections in the tail, suggesting a lack of strong AGN activity or bright synchrotron emission, though the absence of a detection warrants further investigation. Archival GALEX UV data hints at diffuse emission in the tail region, meriting further analysis. This study highlights how group environments alter galaxies before cluster entry, with MaNGA’s spatially resolved data uniquely tracing the interplay of gas and stellar evolution. These observations provide critical insights into hierarchical cluster growth and the role of preprocessing in quenching galaxies.

**Mots-Clés:** galaxy groups, ram, pressure stripping, cluster

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