Title

Magnetic fields in the tails of ram-pressure stripped galaxies in Abell 3627

Abstract

The role of magnetic fields in the ram pressure stripping (RPS) of galaxies traversing dense intracluster environments remains uncertain. While the presence of these magnetic fields in the extended tails of RPS galaxies ("Jellyfish galaxies") has been confirmed by radio continuum surveys, resolved polarimetric studies of these tails are challenging as they require both high resolution and sensitive observations. Polarized radio emission has only been detected in the tail of one Jellyfish galaxy, showing highly ordered magnetic fields over tens of kpc and suggesting that they assist in maintaining ongoing star formation within the tail. With this proposal, we will quadruple this sample by detecting the polarized emission from three Jellyfish galaxies in Abell 3627. Specifically, we aim to answer the questions: (i) What are the strengths and morphological features of magnetic fields in the disks and tails of Jellyfish galaxies? (ii) Can these magnetic fields help to maintain in-situ star formation in the tails?