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Abstract:

Dwarf galaxies are suitable targets to trace external and internal processes driving galaxy evolution due to their shallow gravitational potential.

A recent MeerKAT neutral atomic hydrogen 21 cm (HI) observation of WLM, an isolated dwarf galaxy, shows that this galaxy is unexpectedly affected by ram-pressure. This raises fundamental questions regarding the dark matter content of dwarf galaxies and their interaction with the intergalactic medium (IGM). So far, WLM is the only isolated dwarf galaxy with known evidence of ram-pressure stripping. To search for evidence of ram-pressure in other isolated dwarf galaxies and investigate the role of the IGM in their evolution, we propose to observe the HI content of three dwarf galaxies, far away from any large system with FAST. We aim to go down to a column density level of 5 x 10E+17 cm^-2, enabling us to reach the cosmic web and also search for evidence of cold-gas accretion in intermediate-mass galaxies.