

Simon Pustilnik, Special Astrophysical Observatory of Russian Academy of Sciences

I am proud to be a permanent user of the remarkable Indian radio telescope GMRT in a tight collaboration with my main co-author Prof. Jayaram N. Chengalur and his younger colleagues. During almost 20 years we conducted observations at the GMRT for studying HI in very metal-poor and void dwarf galaxies. We were lucky to discover several interesting properties of these unusual galaxies, in which the atomic gas appears the dominant component of their baryon matter. In particular, we found that the most metal-poor star-forming dwarf galaxies show the ubiquitous pattern of the disturbed gas, which is related to interactions or recent mergers with other dwarfs. We have also found several examples of the most extreme gas dominance ($M_{\text{gas}}/M_{\text{stars}} \sim 100$) in the dwarfs residing near the center of a nearby void that indicates very special conditions of galaxy formation and evolution in the void environment.