

## ***RESULTS FROM THE GMRT HI SURVEY OF THE ERIDANUS GROUP OF GALAXIES***

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A survey to image several galaxies in the Eridanus group is completed using more than 200 hours of observations with the Giant Meterwave Radio Telescope (GMRT). The survey was aimed at studying HI 21-cm line properties of galaxies and galaxy evolution in an environment intermediate between a field (low galaxy density) and a cluster (high galaxy density). The Eridanus group is a nearby ( $\sim 23$  Mpc) group of more than 200 galaxies. The galaxies are distributed in several clumps, which were predicted to be merging together to form a massive cluster of galaxies. The group is also anomalously rich in early type galaxies. The velocity dispersion is  $\sim 250$  km/s which is much lower than that in clusters. The Eridanus group is predicted to be in an early stage of cluster formation. The conditions in the group are not favorable to drive several galaxy evolution mechanisms like ram-pressure stripping, thermal conduction, turbulent stripping, and harassment. Using the GMRT observations, it is observed that galaxies in this group are significantly HI deficient up to a factor 2 - 3. The deficiency is observed to be directly correlated with the local galaxy density and inversely correlated with the line-of-sight radial velocity. It is suggested that the deficiency is due to tidal interactions. The follow up observations with the Very Large Array revealed several long tidal tails and gas debris around a few galaxies in the group. This result supports that tidal interactions are effective in this group. It is also found from the GMRT data that the star formation rates in the Eridanus galaxies is somewhat lower than those in the field. An important implication is that significant evolution of galaxies can take place in a group environment.