

## **21cm Intensity Mapping**

Tzu-Ching Chang, the GMRT-EoR team, and the GBT-HIM team  
ASIAA, Taiwan

The redshifted 21-cm emission from neutral hydrogen can potentially probe a significant fraction of the universe, shedding light on astrophysical processes and fundamental physics. Recently, in the intensity mapping regime two observational redshift windows have emerged: around the epoch of cosmic reionization (EoR), 21-cm line directly traces the distribution and evolution of neutral/ionized regions, probing the reionization history; at redshifts around unity, 21-cm follows large-scale structure and can be used to measure the Baryon Acoustic Oscillation signature in the intensity mapping regime, constraining the properties of dark energy. I will describe our current efforts in these two fields, utilizing the Giant Metrewave Radio Telescope (the GMRT-EoR project) and the Green Bank Telescope (the GBT-HIM project), aiming to measure the 21-cm power spectrum at redshifts around nine and one, respectively. Initial results are encouraging.