

Cosmology with Fast Radio Bursts - New constraints on the Hubble constant

Tuesday, November 8, 2022 11:10 AM (25 minutes)

Fast radio bursts (FRBs) are very short and bright transients visible over extragalactic distances. The radio pulse undergoes dispersion caused by free electrons along the line of sight, most of which are associated with the large-scale structure. The total dispersion measure therefore increases with the line of sight and provides a distance estimate to the source. In my talk, I will discuss the exciting possibilities to use FRBs for cosmology. As an application, I will present the first measurement of the Hubble constant using the dispersion measure-redshift relation of radio bursts with identified host counterpart and corresponding redshift information and discuss the future prospects of FRBs for determining the cosmic expansion rate.

Presenter: HAGSTOTZ, Steffen