
Stacking the Synchrotron Cosmic Web

Tessa Vernstrom*¹

¹ICRAR – Australia

Abstract

We believe there to be diffuse radio emission beyond just the most massive clusters. Accretion shocks in filaments or from smaller mass clusters and group mergers are visible in magnetohydrodynamic simulations from the growth of large-scale structure. This emission should be strongest at low-frequencies but even then the low surface brightness of the emission mixed with confusion makes direct detections very challenging. However, with the use of stacking we have been able to reach below the noise to see the hints of this emission between cluster pairs and the outskirts of groups and clusters. The low frequency data combined with higher frequency polarisation data leads us to the conclusion of shocks from structure growth and unveils information about cosmic magnetism

*Speaker