

The Consequences of RFI and RFI Excision on 21-cm EoR Power Spectrum Measurements

Michael Wilensky

Abstract

In this talk, I will show semi-analytic calculations and simulations that suggest that in order to prevent occlusion of the EoR signal, there are strict requirements for allowable RFI flux density in 21-cm power spectrum integrations. Achieving these flux densities requires large amounts of excision even for extremely remote instruments. I will show that this level of excision produces sharp spectral structures in the data, leading to excess power that blocks the EoR signal. I will discuss possible solutions to this phenomenon, as well as ramifications for future experiments.