

Radio telescope observation planning using machine learning techniques

Low frequency radio telescope observations suffer from time varying interference from the neighborhood. We plan to extract radio spectrum features through a statistical analysis and develop machine learning techniques to make predictions about available good-band regions for an observation schedule. We consider routine monitoring of signals across a broadband and use noise characteristic analysis to classify and rank the frequency bands. The results will be stored in a database and once a sufficient data set is available, we will explore possibilities of feeding the data through a layers of dimensional analysis and clustering algorithms to classify and predict the probability of a selected band being a good choice for a radio astronomy observation that is scheduled in a near future. This is an on going work, and we will present the details and current status of this work in a poster.