

A database model for radio frequency interference classification at the MeerKAT/SKA radio telescope

Gerald Nathan Balekaki

Supervisors: Michelle Kuttel (Comp Sc, UCT), Sarah Blyth (Astronomy, UCT) & Anja Schröder (SAAO)

1. General Overview

Our research project will supply a working model of an RFI database that would assist astronomers and engineers in their effort to find and classify RFI signals. The model should enable the identification of known RFI by source and their nature. We also expect to introduce a means of comparison for newly detected RFI (unknown) against a database of known RFI signals, so as to keep the RFI environment of the radio telescope crystal clean.



1.1. Aim

Supply a model of the RFI database that assist astronomers and engineers in their effort to find and classify RFI signal.

1.1.1 Key Design Aspects

Rapid classification and robust access. Accurate signal matching or comparison. Design for big data and compact storage.

3. Methods/Approach

We will follow an iterative design approach known as User-Centered Design (UCD). Vital for an effective requirements gathering process.

Data layer

2. RFI Classfication Problem

RFI vary greatly in their source and nature which makes it neither easy nor obvious to identify them and where they come from. Thus difficulty in making choice of mitigation approach.









Department of Computer Science