Design Project

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Do the calculations for an object that is moving with the maximum expected speed (approx 16 km/s) at the altitude that will create the shortest time for it to cross the antennas field of view and then make some assumptions and calculations for this.

1. INTRODUCTION

The nature of an Incoherent Scatter Radar system is such that it directs electromagnetic energy into the earths "surrounding area"(ionosphere?); it highlights irregular characteristics present in this space. The energy that is transmitted is then reflected off of these irregularities and returns back in the direction of the system. The system has the ability to create a narrow beam which transmits energy, this energy is then sterred (electronically) within the bounds of the system. Steering can be done in azimuth, elevation, and intensity.

2. CHOICE OF TECHNOLOGY

3. INDIVIDUAL AND ARRAY SIMULATIONS

4. COST OPTIMISATION

5. CHOICE OF PHYSICAL LOCATION IN SOUTH AFRICA

6. WHAT IMPACT WILL THE SYSTEM HAVE ON THE ENVIRONMENT

7. SENSITIVITY ANALYSIS

ACKNOWLEDGEMENT

REFERENCES