

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Continuum
 Observation Category: Extragalactic
 Total Time Requested: 22 Hours

Proposal Title: Search for diffuse supra-cluster synchrotron emission near 330 and 408 MHz in part of the Great Wall near the Coma Cluster

ABSTRACT:

The diffusion of magnetic fields and cosmic rays by collective generations of AGN-jet radio galaxies, and galactic starburst outflows can be best searched for at lower radio frequencies, where the longer I.C. and synchrotron lifetimes of the “relevant” CR electrons have had more time (up to 10^9 yr) to diffuse from their host galaxies and mature radio lobes. Evidence for such radiation has already emerged from WSRT and VLA P-band images, however they are incomplete because the arcmin - to - degree scales of the emission are poorly sampled without the addition of large single dish observations. The Aricebo telescope is ideal for this this purpose, and we propose 2-D scans at near 330 MHz and 430 MHz. The 330 MHz images will be combined with earlier WSRT and recent A+B+C+D configuration data that we have recently taken and calibrated. The 430 MHz images will be combined with an existing full-synthesis DRAO interferometer image over 7.5 deg. The results will provide images on all scales at unprecedented sensitivity in these two independent frequency bands.

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Service Observing Request

Remote Observing Request

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

- No
- Maybe
- Yes

Instrument Setup

430 G 327

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

This proposal requires coordination with AFTWF within the band 425-435 MHz.