

Priority Access and General Authorised Access Interference Mitigation in Spectrum Access System

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ABSTRACT

- We propose a PAL-GAA co-channel interference mitigation technique that does not expose base station locations.
- Our approach relies on GAA sharing the distribution and maximum number of transmitters in a finite area.
- We show how PAL can derive the distribution of the aggregate interference using Probability Density Function and Characteristic Function, and notify GAA about the exclusion zones in space that will guarantee that the interference requirement is met.

EXISTING SYSTEM

- To meet the capacity needs of next generation wireless communications, U.S. Federal Communications Commission has recently introduced Spectrum Access System.
- Spectrum is shared between three tiers - Incumbents, Priority Access Licensees and General Authorised Access Licensees.
- We consider the scenario where locations are not shared between PAL and GAA.

PROPOSED SYSTEM

- We also propose a numerical approximation using Inverse Fast Fourier and Discrete Fourier Transforms.
- Analytically calculated distribution aligns well with the numerical results.
- Additionally we formulate an optimization problem for the optimal exclusion zone size.
- GAA base stations share their location distribution and the number of transmitters in a closed finite census tract area and the PAL network can derive and calculate the distribution of aggregate interference from the GAA base stations.

HARDWARE REQUIREMENTS

- Processor - Intel core i3
- RAM - 2B
- Hard Disk - 20 GB

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SOFTWARE REQUIREMENTS

- Operating System : LINUX
- Tool : Network Simulator-2
- Front End : OTCL (Object Oriented Tool Command Language)

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REFERENCE

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