Abstract

Radio spectrum is a scarce and non-reproducible natural resource hence spectrum management policies play a vital role in ensuring the efficient use of spectrum. Optimum usage of radio resources will be done by sharing these resources among various radio services. Last two decade has seen a tremendous growth in Indian telecommunications because of effective policies launched by governing body and effort of entrepreneurs. As the growth is fast the spectrum access demands are increased enormously. The increasing demand of spectrum imposes spectrum management policies as well as various issues in management of telecommunication domain. As radio resource is limited; the resource needs must be
efficiently shared and reused by a number of users who may be simultaneously accessing a variety of mobile services. This paper investigates the cognitive radio resource management using game theory. Cooperative game theory provides the shared radio resources fairly among multiple non-cooperative cognitive radio networks to optimize overall performance.

References

- Cabric, D., Mishra, S. M., Brodersen, R. W., Implementation issues in spectrum sensing for cognitive radios, IEEE Xplore, Print ISBN: 0-7803-8622-1
- Weiss, T. A., Jondral, F. K., Spectrum pooling: an innovative strategy for the enhancement of spectrum efficiency, Communications Magazine, IEEE.
- Wikipedia, Cognitive Radio
- Fredriech Jondal, Cognitive Radio for dynamic spectrum access - vision meets reality, LStelcom summit, July 2012
- James Neel, How does game theory apply to radio resource management?, Research work, Virginia Tech Doctoral Program
- Ji. Z, and Liu K., Cognitive radios for dynamic spectrum access – Dynamic


**Index Terms**

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**Keywords**

- Cognitive Radio
- Spectrum Management
- Dynamic Spectrum Access
- Radio Resource Management
- Game Theory