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Security and channel noise management in cognitive radio networks

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Abstract

The Spectrum Channel Noise is a pseudorandom or random computational process in a manner that allows the security competence of the available spectrum management frameworks for cognitive radio networks. To mitigate the cognitive spectrum and its security issues, we recommend a central primary spectrum organization structure that is dynamically balanced, and that applies the Primary Key Cryptosystem (PKC). The node identity applicable in this PKC is utilized as the framework to produce the primary user identification structure. In that case, the authentication is rooted in the secondary user for necessary verification. The dynamic, secure key is provided based on the security aspect of the initial framework. Apart from that, the PKC-based McEliece secondary key provides an error correction capacity, which can remove the noise during secondary user allocation and enhance the effectiveness of the spectrum management, which collaborate effectively over the noise channel management.

Keywords:

Spectrum channel noise, Dynamic key management, secure group key, primary cryptosystem, pseudorandom noise, Spectrum management, Cognitive radio networks

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