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Abstract

In cognitive radio networks secondary users access licensed frequency bands if they are free to use. Since it is inevitable that transmissions of the licensed users must not be interfered with different sensing and transmission techniques have to be utilized by the secondary users. For example the knowledge of a primary user location can be exploited to reduce the interference with that particular user. Thereby applicable techniques are directed transmissions and transmission power control of the secondary users. However the localization is not trivial and is tainted with uncertainties due to estimation errors. In this paper several different primary user localization schemes based on Received Signal Strength (RSS) measurements which try to reduce the localization error to a minimum with reasonable effort are presented. Some of them are adopted from wireless sensor networks.

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