عنوان مقاله:

Malicious Node Detection in Cognitive Radio using Fuzzy Weighted Trust Evaluation

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خلاصه مقاله:

With increasing demand for wireless communication, efficient utilization of spectrum becomes very important. Cognitive radio is a new approach for improving the spectrum utilization by making it possible for secondary (unlicensed) users to access spectrum band when primary (licensed) user is absent. Spectrum sensing is one of the most important tasks in cognitive radio networks. Cooperation among secondary unlicensed users will increase probability of primary licensed user detection. In cooperative sensing, malicious nodes send false information to fusion center, which degrade performance of the system. To reduce the effects of malicious nodes, several detection techniques have been proposed. In most of these techniques, the fading effects have been ignored. In this paper, we introduce new trust factors to be assigned to the nodes for nullifying the effects of malicious nodes in final decision, considering fading effects. In our proposed method, we use fuzzy logic for computing the suspicious level of the nodes. Simulation results show that our proposed method can introduce more improvement of performance compared with previous works

کلمات کلیدی:

Cognitive radio, cooperative spectrum sensing, energy detector, Fuzzy logic, malicious node detection

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