عنوان مقاله:

An Efficient And Simple Power Allocation Scheme To Raise Energy Efficiency In Cognitive Radio Sensor Networks

محل انتشار:

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خلاصه مقاله:

In the few years ago we have encountered the dramatically growth wireless cognitive radio networks to meet the needs of modern society. Also it is generally accepted that wireless cognitive radio sensor network play a main role in telecommunication industry. Since that replacement of sensor nodes batteries is pretty impossible in a cognitive radio sensor network, rise of the lifetime of these batteries leads to increase the lifetime of these networks. Energy efficiency is one of the main problems in these networks which is aimed to be maximum. The energy efficiency in cognitive networks is the ratio of network throughput and the total power of network that is a fractional programming problem following by some constraints that must be satisfied to prevent interference in these networks. Since, the objective function is a fractional nonlinear problem; we have used an iterative method within is used particle swarm optimization algorithm. This algorithm has been known as useful algorithm to find best solution among numerous solutions. Also we tried different parameters in simulations and compared the results to explain the parameter's effects. The results prove the high capability of the iterative algorithm especially with lots of number of sensor nodes and primary users or complicated networks.

کلمات کلیدی:

Energy efficiency, Particle swarm optimization, Power allocation, Wireless sensor network

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