

## Capacity Optimization in Cooperative Cognitive Radio Networks

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**Abstract :** Cooperative spectrum sensing is a crucial challenge in cognitive radio networks. Cooperative sensing can increase the reliability of spectrum hole detection, optimize sensing time and reduce delay in cooperative networks. In this paper, an efficient central capacity optimization algorithm is proposed to minimize cooperative sensing time in a homogenous sensor network using OR decision rule subject to the detection and false alarm probabilities constraints. The evaluation results reveal significant improvement in the sensing time and normalized capacity of the cognitive sensors.

**Keywords :** cooperative networks, normalized capacity, sensing time

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