

## عنوان مقاله:

Distributed Beamforming for SINR Balancing Approach in Cognitive Two-Way Relay Networks With Imperfect Channel State Information

## محل انتشار:

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## خلاصه مقاله:

A cooperative bidirectional relaying scheme based on distributed relay beamforming is proposed for an under- lay cognitive radio network which consists of two secondary transceivers and  $K$  cognitive relay nodes and a primary network with a transmitter and receiver, all equipped with single antenna. For this network we assume that the second-order statistics of the channel coefficients between the relays and primary network is available. Also the perfect channel state information (CSI) is assumed for secondary network. Here, we propose a signal-to-interference plus noise-ratio (SINR) Balancing based on distributed relay beamforming. Our aim is to design the beamforming coefficients to maximize quality of service (QoS) for the secondary network while satisfying tolerable interference constraint for the primary network. Using semidefinite relaxation we turned this problem into convex feasibility problem which can be solved along with bisection search method. Our simulation results show that the uncertainty about the channel coefficients can be degrade the performance of the network considerably. Also as we increased the tolerable interference on primary receiver, the maximum achievable SINR is increased.

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/154574>

