عنوان مقاله:

Achievable Secrecy Rate Regions of State Dependent Causal Cognitive Interference Channel

محل انتشار:

دوفصلنامه مهندسی مخابرات, دوره 7, شماره 1 (سال: 1397)

تعداد صفحات اصل مقاله: 16

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خلاصه مقاله:

In this paper, the secrecy problem in the state dependent causal cognitive interference channel is studied. The channel state is non-causally known at the cognitive encoder. The message of the cognitive encoder must be kept secret from the primary receiver. We use a coding scheme which is a combination of compress-and-forward strategy with Marton coding, Gel'fand-Pinsker coding and Wyner's wiretap coding at the cognitive encoder. We use rate splitting for messages at both transmitters. Furthermore, the cognitive user compresses its channel observation using Wyner-Ziv coding and splits the index of its compressed signal. By using this scheme we derive an achievable secrecy rate region for this channel and extend the results to the Gaussian case and provide some numerical results.

کلمات کلیدی:

Causal cognitive interference channel, State dependent channel, secrecy, Achievable secrecy rate region, rate-equivocation

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