

The Secrecy Capacity of the Semi-Deterministic Wiretap Channel with Three State Information

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Abstract : A general model of wiretap channel with states is considered, where the legitimate receiver and the wiretapper's observations depend on three states S1, S2 and S3. State S1 is non-causally known to the encoder, S2 is known to the receiver, and S3 remains unknown. A secure coding scheme, based using structured-binning, is proposed, and it is shown to achieve the secrecy capacity when the signal at legitimate receiver is a deterministic function of the input.

Keywords : physical layer security, interference, side information, secrecy capacity

Conference Title : ICCE 2016 : International Conference on Communications Engineering

Conference Location : Amsterdam, Netherlands

Conference Dates : May 12-13, 2016