

Effective version of Shannon's theorem in information theory

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Abstract

According to Shannon's capacity theorem, information can be reliably transmitted over noisy channels as long as the rate of transmission does not exceed the channel capacity. The original proof (1948) involves the probabilistic method. The first effective version of this theorem was found in 2008 by E. Arıkan. We discuss Arıkan's idea as well as an extension of his results due to Woomyoung Park and the speaker.