Code design for Physical Layer Security

Wiretap channel represents the basic setup for physical layer security. It has been extensively studied in the last four decades and the fundamental limits of communication for this channel are known in a wide variety of scenarios. Nevertheless the only explicit code construction that can achieve wiretap secrecy capacity uses Polar codes. Designing codes for secrecy involve the combined design of codes for reliability and channel resolvability. In 2015 a new coding scheme for channel resolvability was introduced by Amjad and Kramer. The aim of this internship is to combine this channel resolvability code with existing channel codes in order to design wiretap code.

Advisors

Rana Amjad