

A joint weighted power detector for Willie in two-hop covert communication system

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May 31, 2022

Abstract

In this letter, a joint weighted power detector (JWPD) based on maximum a posterior probability (MAP) criteria is proposed for Willie aiming at two-hop covert communication scenario, which is a near optimal detector. Instead of only supervising one single phase, Willie combines the observations of two phases to make joint decision in the proposed scheme. The proposed scheme achieves lower probability of detection error (PDE) than the existing single-phase-detector (SPD) scheme and adding-power-directly-detector (APDD) scheme due to sufficient utilization of the two-phases observations. Numerical results demonstrate the benefit of our proposed scheme.

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