## **Covert Communication Achieved by A Greedy Relay in Wireless Networks**

### ABSTRACT

Covert wireless communication aims to hide the very existence of wireless transmissions in order to guarantee a strong security in wireless networks. In this work, we examine the possibility and achievable performance of covert communication in amplify-and-forward one-way relay networks. We propose two strategies for the relay to transmit its covert information, namely rate-control and powercontrol the transmission schemes, for which the source's detection limits are analysed in terms of detection error probability and the achievable effective covert rates from the relay to destination are derived. Our examination determines the conditions under which the rate-control transmission scheme outperforms the powercontrol transmission scheme, and vice versa, which enables the relay to achieve the maximum effective covert rate.

## **EXISTING SYSTEM**

- In existing system, spread-spectrum techniques are widely used to achieve covertness in military applications of wireless communications.
- This leads to the fact that the probability that the spread-spectrum techniques fail to hide wireless transmissions is unknown, significantly limiting its application.
- The fundamental limit of covert communication under various channel conditions, such as additive white Gaussian noise (AWGN) channels, binary symmetric channels, discrete memoryless channels, and multiple input multiple output (MIMO) AWGN channels.

## **PROPOSED SYSTEM**

- We proposed the rate-control and power-control transmission schemes for R to convey covert information to D.
- The rate-control transmission scheme, in which transmits a covert message to with a constant rate when some specific realizations are guaranteed.
- The power-control transmission scheme, in which R transmits a covert message to D with a constant transmit power if possible.

# SYSTEM REQUIREMENTS

#### HARDWARE REQUIREMENTS

- •Processor Intel core i3
- •RAM 2B
- •Hard Disk 20 GB

#### SOFTWARE REQUIREMENTS

- •Operating System : LINUX
- •Tool : Network Simulator-2
- •Front End : OTCL (Object Oriented Tool Command Language)

### REFERENCE

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