Outage Analysis for SWIPT Enabled Two-Way Cognitive Cooperative Communications
ABSTRACT

• In this paper, we study a cooperative cognitive radio network where the secondary user-transmitter assists bi directional communication between a pair of primary users following the principle of two-way relaying.

• In return, it gets access to the spectrum of the PUs to enable its own transmission to SU-receiver.

• Further, in order to support sustainable operation of the network, SU-Tx is assumed to harvest energy from the RF signals received from the PUs, using the technique of simultaneous wireless information and power transfer.
EXISTING SYSTEM

• On the other hand, two-way relaying is being investigated as a spectrally efficient means for supporting bi-directional communication between a pair of users.

• Use of CCRN in a TWR system is expected to further improve the spectrum utilization efficiency. In such a system, the SU performs TWR to assist bi-directional communication between a pair of PUs.
PROPOSED SYSTEM

• In this paper, we have studied a spectrum sharing protocol in an energy harvesting DF relay assisted two way communication network.

• Analytical expressions for outage probabilities at the destinations are derived and verified using simulations.

• It is shown that in terms of spectrum and energy efficiency, two-way energy harvesting DF-relay protocol is found to outperform the corresponding one-way protocol.
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


