Performance Analysis of Wireless Powered DF Relay System under Nakagami m Fading

ABSTRACT

- In this paper, we analyze the average symbol error rate for a wireless powered three-node decode-and-forward relaying system in Nakagami-m fading environment.
- M-ary phase-shift keying modulated data at source is communicated to destination through energy-constrained relay node in three time slots.
- In the first slot, the signal transmitted by the source is used for energy harvesting at the relay node.

EXISTING SYSTEM

- Relaying extends coverage range and enables reliable communication.
- Amplify-and-forward and decode-and-forward are two main transmission protocols employed in relay systems .
- In AF, relay simply amplifies the received data and transmits it to the destination, whereas in DF, relay decodes and then encodes the received data and sends it to the destination.
- In conventional wireless systems, we assume that relay nodes are enabled by batteries having infinite storage capacity.

PROPOSED SYSTEM

- Next two slots are employed for selective DF relaying, where relay transmits using the energy harvested from the source node.
- The source node is assumed to have a dedicated power supply.
- We analyze the end-to-end average SER expressions using the moment generating function based approach for two relaying scenarios the direct link between the source and the destination exists and the direct link is deeply faded and therefore can be ignored.

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)

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