Resource Allocation and Admission Control for an Energy Harvesting Cooperative OFDMA د**با** ور ا Network

ABSTRACT

- This paper addresses the problem of joint resource allocation and admission control for an energy harvesting based cooperative OFDMA network, where multiple source-destination pairs and an EH amplify-and-forward relay coexist.
- Specifically, the relay first employs the power splitting technique to scavenge energy from radio frequency signals emitted by source nodes, and then leverages the harvested energy to forward data for source nodes when necessary.

EXISTING SYSTEM

- Among the existing energy harvesting technologies, simultaneous wireless information and power transfer has attracted great attention.
- Since radio frequency signals can carry both information and energy simultaneously, the RF energy radiated by a transmitter can be recycled by a receiver.
- For instance, by using the power splitting technique of SWIPT, an EH receiver can concurrently process information for the transmitter and harvest energy from the received RF signals.

PROPOSED SYSTEM

- Under imperfect channel state information, we first design a distributed robust resource allocation scheme to efficiently allocate system subcarriers.
- Then, for the admission control, which is important but has hardly been studied for EH networks, we propose a fuzzy-logic based admission control policy to determine the network access of each sourcedestination pair, if not all source-destination pairs' quality-of-service requirements can be satisfied.

HARDWARE REQUIREMENTS Intel core 13 Processor RAM 2B• 20 GF Hard Disk

SOFTWARE REQUIREMENTS

: LINUX

• Operating System

- Tool
- Front End

- : Network Simulator-2
- : OTCL (Object Oriented Tool Command Language)

REFERENCE

- [1] X. Zhang, J. Tang, H. H. Chen, S. Ci and M. Guizani, "Crosslayer-based modeling for quality of service guarantees in mobile wireless networks,", 2006.
- [2] J. Tang and X. Zhang, "Quality of service driven power and rate adaptation over wireless links,", 2007.
- [3] H. Su and X. Zhang, "Cross-layer based opportunistic MAC protocols for QoS provisionings over cognitive radio wireless networks,", 2008.

[4] Y. Liu and X. D. Wang, "Information and energy cooperation in OFDM relaying: protocols and optimization,", 2016.