Effect of Communication Range with Node Cooperation in Wireless Passive Sensor Networks

Abstract

Node cooperation is considered in this paper in the existence of two relaying protocols i.e. “Amplify and Forward (AF)” also called “Store and Forward (SF)” and the second relaying protocol is “Decode and Forward”. The two stated protocols are different from each other and perform different operations on received data before retransmitting to next hop. Also the selection of each protocol is varying in accordance to the distance of a sensor node from the destination node (RF source). It is suggested in this literature that a relay node close to the source node will employ Decode and Forward and if it is close to the destination node, then Amplify and Forward will be employed. This work is achieved by first modelling an empirical system consists of single relay, source and destination. And the two relaying protocols (SF and DF) were modelled and implemented. This approach is then extended for three relay nodes and
the two sets of relaying nodes were implemented again on every single node and then the output performances were compared. Finally using analytical approach, the communication range or the capacity of RF source to charge the sensor nodes in certain area was also evaluated and it is considered that the relay nodes within the prescribed range are successfully charged in charging stage. And in communication stage, the relay node was allowed to keep at various distances from the source node and evaluate the performance of each relaying protocol on a particular distance from source and destination.

References

- F. Kocer, P.M. Walsh, and M. P. Flynn. “Wireless Remotely Powered Telemetry in
Effect of Communication Range with Node Cooperation in Wireless Passive Sensor Networks


Effect of Communication Range with Node Cooperation in Wireless Passive Sensor Networks


Index Terms

Computer Science

Wireless

Keywords

Communication  Node Cooperation  Wireless Passive Sensor Networks