

# ROUTING IN ACCUMULATIVE MULTI-HOP NETWORKS

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# ABSTRACT

- The problem of finding optimal paths in single-source single-destination accumulative multihop networks
- If single source that communicates to a single destination assisted by several relays through multiple hops
- advanced energy accumulation transmission/reception techniques, such as maximal ratio combining reception of repetition codes, or information accumulation with rate less codes
- Accumulative techniques increase communication reliability, reduce energy consumption, and decrease latency
- The properties that a routing metric must satisfy in these accumulative networks to guarantee that optimal paths can be computed  
with Dijkstra's algorithm



# CONTINUE

- We model the problem of routing in accumulative multi-hop networks, as the problem of routing in a hypergraph
- studying the minimum energy routing problem in static accumulative multi-hop networks for different forwarding strategies at relays

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# EXISTING SYSTEM

- We consider a single source that communicates to a single destination assisted by several relays through multiple hops
- At each hop, only one node transmits, while all the other nodes receive the transmitted signal, and store it.
- after processing/decoding and mixing it with the signals received in previous hops.

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# DISADVANTAGE

- A single source that communicates to a single destination assisted by several relays through multiple hops
- At each hop, only one node transmits, while all the other nodes receive the transmitted signal, and store it

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# PROPOSED SYSTEM

- Advanced energy accumulation transmission/reception techniques, such as maximal ratio combining reception of repetition codes, or information accumulation with rate less codes
- Accumulative techniques increase communication reliability, reduce energy consumption, and decrease latency
- Dijkstra's algorithm
- We model the problem of routing in accumulative multi-hop networks, as the problem of routing in a hypergraph

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# ADVANTAGE

- Accumulative techniques increase communication reliability, reduce energy consumption, and decrease latency
- We model the problem of routing in accumulative multi-hop networks, as the problem of routing in a hyper graph.

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# SYSTEM REQUIREMENTS

## HARDWARE REQUIREMENTS

- System : Pentium IV 2.4 GHz.
- Hard Disk : 40 GB.
- Floppy Drive : 1.44 Mb.
- Monitor : 15 VGA Colour.
- Mouse : Logitech.
- Ram : 512 Mb.

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## ○ SOFTWARE REQUIREMENTS

- Operating system : Windows XP/7.
- Coding Language : ASP.net, C#.net
- Tool : Visual Studio 2010
- Database : SQL SERVER 2008

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# CONCLUSION

- In this paper, we studied the routing problem in accumulative multi-hop networks. We showed that as opposed to traditional multi-hopping where the network is well modeled by a graph, for routing in accumulative networks, the network needs to be modeled by a hypergraph. We studied the properties that guarantee that Dijkstra's algorithm finds the optimal path in such networks, and presented sufficient conditions for the optimality. These conditions are particularized for the minimum energy routing problem with decode-and-forward relays, parity-forwarding relays, and for the cut-set bound.

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