

OPPORTUNISTIC LOCALIZATION IN WIRELESS SENSOR NETWORKS

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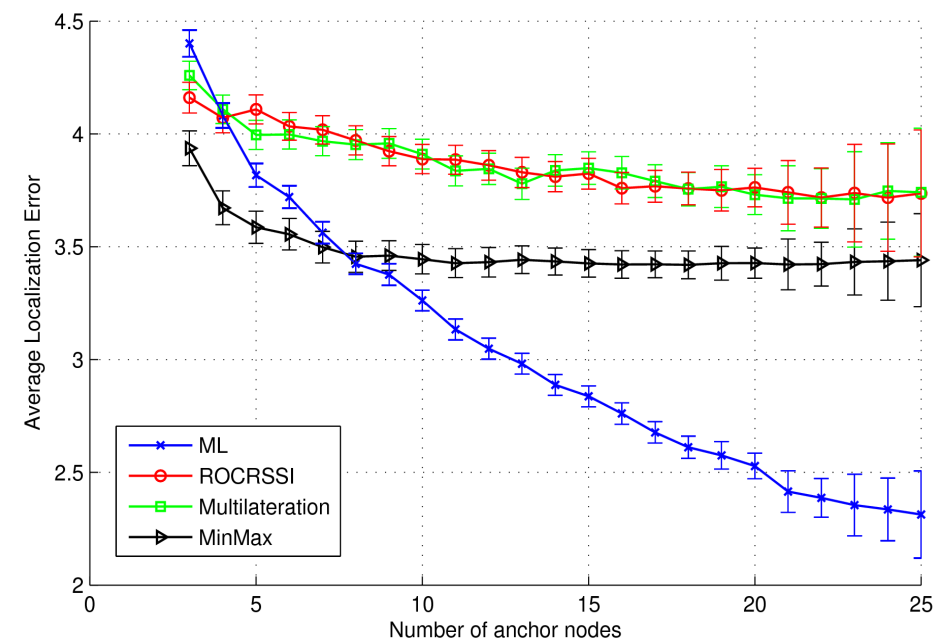
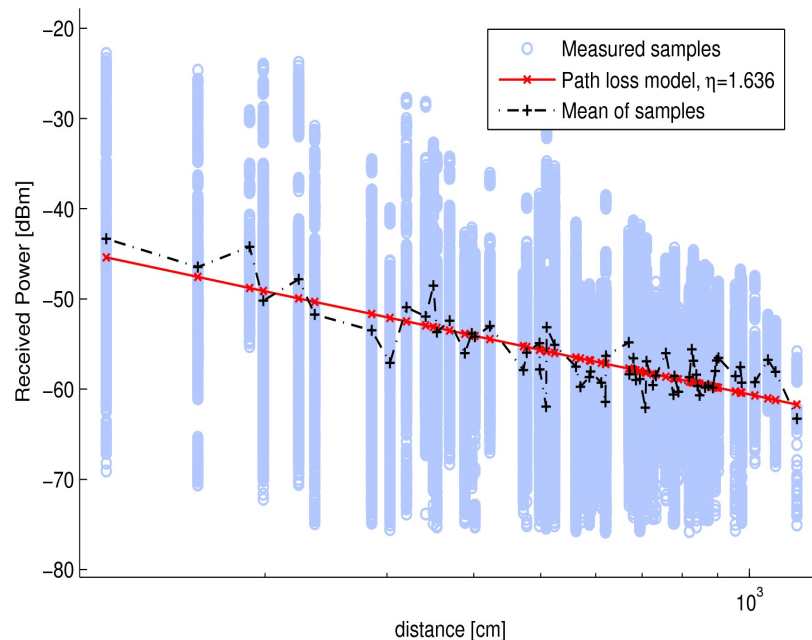
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LOCALIZATION IN WSNs

- We study static localization in WSN, using RSSI measures
 - Very poor performance, channel too noisy
 - Accuracy not under 2 meters



HOW CAN WE IMPROVE?



- ❑ Opportunistic localization in WSN
 - Heterogeneous network (different localization devices)
 - Multi-interface nodes (at least 2)
 - Static and Mobile nodes
 - Two way to localize:
 - ✓ Infrastructured network, beacon nodes, using also tracking
 - ✓ Peer-to-peer exploiting different loc accuracy

MAIN IDEA



- ❑ A node has a certain localization accuracy, given by an infrastructured network
- ❑ It can meet a node with a better accuracy and using distance estimate and position, it can increase loc performance
- ❑ Many tradeoff to study: coverage range vs precision, duty-cycle vs meeting probability

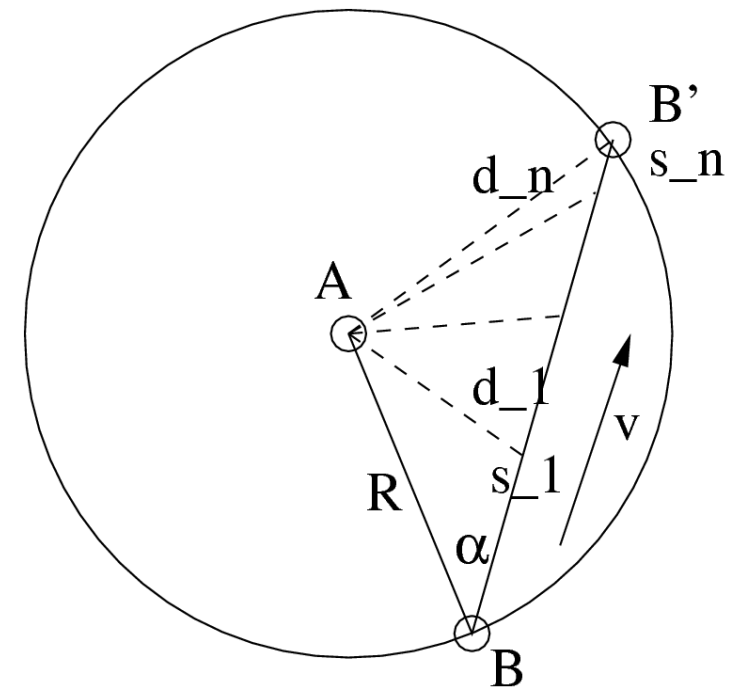
MAIN CHALLENGES

□ Nodes' contact

- The prob of meeting, the time available to communicate, the communication distance

□ Estimate update

- How to exploit the information of the other nodes?





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