

International Journal of Sensor Networks

Special Issue on: Coverage Problems in Sensor Networks

Aims and scope

Sensor networks have been an active research area in recent years. As more and more practical applications of sensor networks continue to emerge, the performance aspects of sensor networks start to attract new attentions. Among many others, the coverage of a sensor network, directly related to the surveillance capability, is intractably interleaved with other quality of service issues in sensor networks. In the literature, coverage problems have been addressed from different perspectives, mostly as standalone problems, and solution techniques evaluated in various context. Coverage is one of the fundamental problems in sensor networks. It is important to highlight the most important contributions in sensor network coverage research, especially those that lead to fundamental mathematical models, uniform performance metrics and standard assessment methods.

The aim of this special issue is to provide a platform for sensor network researchers in industry and academia to present the state-of-the-art research that addresses the fundamental coverage problems in sensor networks, explore the relation of coverage to other practical performance metrics, and promote the research activity in sensor networks.

Areas of interest include but are not limited to the following topics:

- Coverage computation addressed from a statistical or deterministic point of view, especially leveraging graph theory and information theory
- Mathematical performance modelling of coverage
- Coverage metrics and monitoring---new criteria and evaluation methods
- Theoretical analysis addressing
 - the relation between coverage and network connectivity
 - the relation between coverage and network capacity
- Distributed and localized computation of coverage
- Distributed coordination and self-organization related to coverage
- Energy efficient algorithms and approaches related to coverage
- Power-saving modes of operation related to coverage
- Scheduling algorithms and protocols related to coverage
- Fault tolerant coverage configuration in sensor networks
- Application of formal methods to the assessment of sensor network coverage

Deadlines for submission

Manuscript due: April 1, 2006

Acceptance/rejection notification: August 1, 2006

Final manuscript due: August 31, 2006

Publication date: January 2007

Instructions for submissions

Submit the manuscript via e-mail to Dr. Maggie Cheng at chengm@umr.edu. The acceptable manuscript format is PDF.

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