Faculty of Electrical Engineering & Computer Science
Master Degree Course Electronics Engineering, MSc EE

HOCHSCHULE BREMEN
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Implementation, Simulation und Evaluation of Strategies for an Optimal Positioning of Nodes in a Sensor Network

ABSTRACT - Masterthesis

This master thesis presents different placement strategies of sensor nodes in a sensor network. In wireless sensor networks, when sensors are deployed randomly in the sensor field, they always give rise to a coverage problem. Therefore, the sensors need to be placed at optimal positions to maximize the coverage and to enhance the performance of a network with minimum number of sensors. Two different strategies have been used in this master thesis to find the optimal positions for intrusion detection. First is through Genetic Algorithm and second is through Grid Map. These two approaches also help in the area of optimizing coverage for intrusion detection in an indoor environment.