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## Fuzzy Sensor Network for Mobile Robots Navigation

Abstract:

This paper presents the results of the research carried out in the development of Fuzzy sensor networks for navigation mobile robots in closed environments. Wi-Fi technology is used for locating and moving robots which permit to calculate value of the Received Signal Strength Indicator (RSSI). The sensor network has a lot of access points with pre-defined coordinates distributed in the navigation space. The paper presents: topology of the sensor network, mathematical models for

locating and describing the dynamics, the structure of the Fuzzy controller and the diagram of sequences that determines the interaction of the mobile robots with the access points. The calculation of the location coordinates and the directions of movement are performed based on the models and algorithms of Fuzzy logic.