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Fuzzy Logic Control for Mobility Support in Industrial Wireless Sensor Networks

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Title:	Fuzzy Logic Control for Mobility Support in Industrial Wireless Sensor Networks
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Abstract:	Mobility management is a crucial problem for wireless mobile communication, especially in wireless sensor networks (WSN). In this chapter, we show the need of providing an intelligent mobility controller, applicable to any WSN industrial environment or testbed setting with mobility requirements. In particular, we utilize fuzzy logic control, due to its reported strength in controlling nonlinear systems using linguistic information, to build an efficient mobility controller that aid sensor mobile entities to decide whether they have to trigger the handoff procedure and perform the handoff to a new connection position or not. Based on real industrial setting experiments, the fuzzy logic-based mobility controller has shown significant benefits compared to the RSSI-based conventional mobility solution, fulfilling basic performance requirements.