

Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

WIRELESS SENSOR NETWORKS IN CHALLENGED ENVIRONMENTS SUCH AS UNDERWATER AND UNDERGROUND

Ian F. Akyildiz

Georgia Institute of Technology, Atlanta, USA

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Diskussionsleitung: Prof. Dr.-Ing. W. Gerstacker

Oceanographic data collection, pollution monitoring, offshore exploration, disaster prevention, assisted navigation and tactical surveillance are typical applications for wireless underwater sensor networks. In this talk the wireless underwater acoustic communication channel is explored, and novel medium access control and routing protocols will be presented. On the other hand, sensor applications in soil media and tunnels have unique communication problems. In particular, the wireless channel peculiarities in the underground make communication problems interesting which will be discussed in this talk. Electromagnetic and Magnetic Induction communication paradigms are explored. Future research challenges will be highlighted in both areas.