Wireless Local Positioning Based on Synthetic Apertures

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Abstract

Radio-based localization is currently a very vibrant scientific research field. Localization systems that are using backscatter transponders can be designed to deliver coherent measurement signals that are suitable for use with synthetic aperture approaches. In this talk innovative transponder localization concepts based on synthetic apertures will be presented. This innovate technique will be demonstrated by localizing standard passive UHF-RFID tags, by localizing vehicles equipped with an innovative active backscatter transponder and by localizing the tool center point (TCP) of a material handling robot with millimeter accuracy.

Keywords

wireless local positioning, RFID, transponder, radar, real-time locating systems