

Master's Thesis

Investigation of Receiver Strategies for Ultra Wideband Communication with Time-of-Flight Distance Measurement

In particular, receiving algorithms for the IEEE 802.15.4 transmission protocol (designed for ultra wideband, low-power transmission) will be developed, in conjunction with time-of-flight positioning schemes from higher OSI layers (such as ZigBee). Possible aspects to be investigated could include, e.g., the overall transmission quality with regards to channel impairments (noise/doppler/multipath fading), robustness against deviations in the transmitter/receiver LO frequency, problems in coexistence with other standards such as Bluetooth or WLAN and security measures against interferers (imposed by the localization of the TOF protocol).

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