

Development of a Pseudo-Random Coded Channel for Reliability and Multi-Target-Detection for a Positioning System

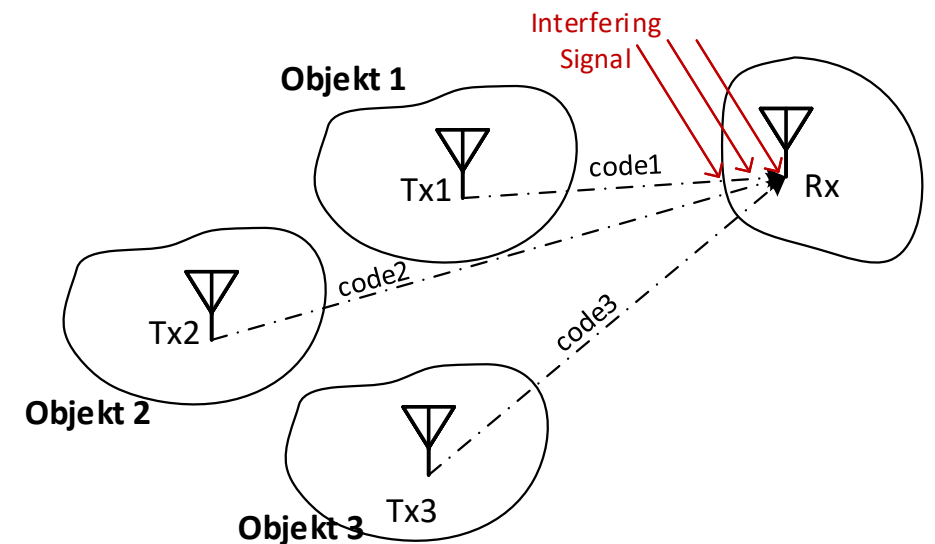
Background

At HFE a new close-range positioning system will be developed for indoor-tracking and docking applications. To increase its reliability and its resistance against interfering signals, a pseudo-random channel coding shall be implemented. Furthermore, this enables the detection of multiple active targets.

Tasks

The students task is the development of pseudo random channel coding:

- Literature review on pseudo random codes, direct sequence spread spectrum, channel coding, signal shaping, positioning systems, radar
- Setting up a Matlab Simulink environment for the positioning system and evaluating the developed pseudo-random codes in terms of resistance against interfering signals and multi-target-detection capability.



Contact

Eduard Heidebrecht
Kopernikusstraße 16, 52074 Aachen
ICT cubes, 5th Floor, Room 540
+49 241 80 24645
heidebrecht@hfe.rwth-aachen.de
www.hfe.rwth-aachen.de