ICT10-066 - Noncoherent Wireless Communications over Doubly Selective Channels (NOWIRE)

Zusammenfassung

Wireless communications are a key technology of exceptional economic relevance. This project aims at improving the design of wireless transceivers for high-mobility scenarios such as vehicular communications. A "noncoherent" design approach is adopted in order to avoid systematic errors of currently used coherent designs. The overall goal is the development of advanced noncoherent transceiver techniques for mobile radio channels that achieve the improved performance expected from future generations of wireless communication systems. Relevant aspects such as modulation, channel characterization, signal and receiver design, and information-theoretic performance limits will be addressed in an integrative approach. The performance of the developed transceiver techniques will be evaluated using measured and simulated vehicular channels. The project is a joint endeavor of seven research groups based in Vienna, Switzerland, Denmark, and the United States, with extensive expertise and a longstanding record of successful collaboration. The exploitation of project results by Viennese and other companies will be actively supported by the participating researchers.

Keywords:
noncoherent communications, doubly selective channel, Gabor analysis, harmonic analysis,signal processing, wireless communications

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Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter
https://wwtf.at/funding/programmes/ict/ICT10-066/