GOAL 3 : Intelligent, safe and secure mobility
TASK 3.2 : Intelligent infrastructure and vehicle
SUBTASK 3.2.1 : Adaptive and optimized techniques for robust MIMO-OFDM for V2V and V2I communications

Post doctorate position

MIMO techniques for robust and high data rate wireless transmission in the transportation field for metro applications

MIMO techniques associated to OFDM, precoding, turbo coding and source-channel coding techniques are studied in order to answer the needs for robust and reliable wireless communications in the transportation field with Telecom Bretagne and XLIM-SIC cooperation.

WIMAX and Wifi like devices (IEEE 802.16d) have been already experimented. A global simulation chain has been developed using IT++ modules. These preliminary works have highlighted the fluctuation of the MIMO system performance versus the correlation in the propagation channel encountered by the vehicle while moving.

MIMO channel soundings have also been performed both in road and metro environments and are still under exploitation.

The aim is now :
- to develop dynamic channel models,

- to implement some existing adaptive MIMO algorithms as a function of the propagation channel encountered (tunnel, masking train, urban canyon, LOS or NLOS, etc…) on a real transmission chain.

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Employment
Gross monthly wages : 2500 €
Duration :12 months
Employer : CNRS France