60 GHz Indoor Localization using Interferometry-based Time Difference of Arrival

Mots clés :

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- **Unité de recherche** : Laboratoire inconnu!
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- **Domaine scientifique principal** : Divers

Résumé du projet de recherche (Langue 1)

The aim of this research is to assess the potential of the TDOA (Time Difference of Arrival)-based positioning technique to be embedded in small communicating devices operating in indoor environments and to develop a demonstrator at 60 GHz. The following tasks are planned to be carried out: 1- An extensive bibliography will be conducted about localization techniques and a state of the art of TDOA-based systems will be drawn. 2- Handle the already developed positioning technique and suggest some improvements to make it suitable for being embedded in small devices. The implementation of the technique with UWB-IR signals rather than OFDM-based signals will also be investigated. 3- Simulate the technique to take the environment into account, by using the propagation channel models developed by the L2E and the ULB 4- Develop a 60 GHz demonstrator; including the design of passive circuits (antennas, power divider, delay lines…)