

Post-doctoral position

« Design of MEMS-based reconfigurable millimeter wave antennas for automotive radars at 77 GHz »

(IETR, Rennes, France)

Context and objectives

This proposal deals with the design of millimeter wave beamforming antennas to be integrated in the front-end of next-generation automotive radars at 77 GHz. The work to be carried out is in the framework of a European Project.

The aim of this research project is to design, optimize and characterize innovative reconfigurable antennas for short range and long range radars operating around 77 GHz. The specifications at the system and antenna levels will be provided by the industrial partners of the consortium. The beam reconfiguration will be based on MEMS technology. The main tasks to be carried out are the following: 1) Bibliographic study on beam forming antennas and MEMS-based reconfigurable antennas, 2) Design, fabrication and experimental characterization of the antenna building block, 3) Design, fabrication and experimental characterization of the whole antenna.

Candidate qualifications: PhD. Strong background in (at least) one the following areas: design of antennas at millimeter waves, MEMS technology, passive antennas, active antennas and biasing techniques, reconfigurable antennas, beamforming antennas. A strong knowledge of commercial electromagnetic softwares will be strongly appreciated.

Documents to provide for the application: detailed CV, list of publications, at least 2 recommendation letters.

Duration: from 12 to 36 months

Starting date: June 1, 2008 (or earlier if possible)

Salary (net): roughly 2150 Euros / month

Laboratory (www.ietr.org):

University of Rennes 1

IETR (Institute of Electronics and Telecommunications, Rennes), UMR CNRS 6164

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