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ERASMUS MUNDUS



MASTER in PHOTONICS EUROPHOTONICS-POESII

MASTER THESIS PROPOSAL

Course 2015 –2016

Laboratory: TSC, Universitat Politècnica de Catalunya, Campus Nord
City: Barcelona
Country: Spain

Title of the master thesis: Microwave photonic antenna beam steering

Name of the tutor of the master thesis: María C. Santos

Email address: santos@tsc.upc.edu

Phone number: 34-934017226

Mail address: Jordi Girona 1, UPC-Nord-D3-118.

Summary of the subject (maximum 1 page):

Photonic approaches to wireless and microwave systems are increasingly becoming popular mainly because of advantages such as wide bandwidth operation, reconfigurability, potential for fiber-optic transmission over long distance, etc.

An example is optical beam steering networks feeding phased antenna arrays which exploit the wide bandwidth true time delays obtained photonically. In this master thesis we will study the different strategies available for the photonic beam-steering and shaping control of the wireless beam, with focus on obtaining a working prototype in a broad bandwidth covering up to 40 GHz signals that will be tested in an anechoic chamber environment.

Keywords: beam steering, microwave photonics