

Optoelectronic oscillators for high purity microwave signal generation

mercredi 28 septembre 2022 14:00 (1h 15m)

High purity microwave signal generation is required in various applications (RADAR systems, wideband sampling). For high frequency operations, optics offer promising solutions to generate low noise oscillators. The aim of my thesis was to provide a comprehensive phase noise model of various Optoelectronic Oscillator (OEO) configurations operating around 10 GHz, and to optimize these configurations with consideration to the overall oscillator compactness.

In this seminar, I will first detail a simple model to design single and dual loop OEO. The model predictions are compared to experimental results with excellent agreement. I will then discuss a phase noise model for active and harmonically mode locked laser and conclude with experimental investigations to optimize the phase noise of coupled OEO.

ATTENTION: DATE ET HEURE INHABITUELS

Orateur: Dr LELIEVRE, Oriane (Thales Group)