EPIC Online Technology meeting on Microwave Photonics

uc3m | Universidad Carlos III de Madrid

Optoelectronics & Laser Technology Group

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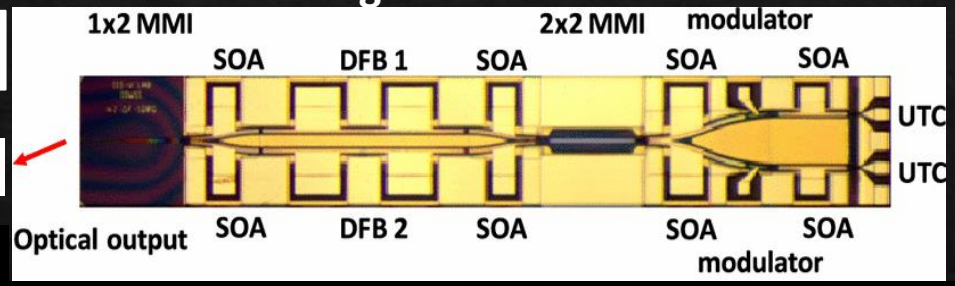
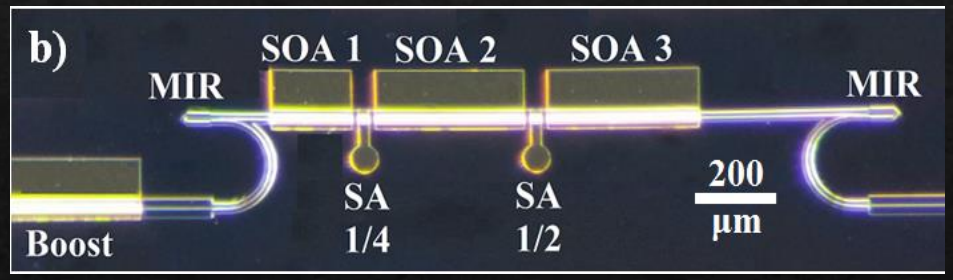
What do we do?

Develop Photonic Integrated Circuits for Ultrabroadband Wireless

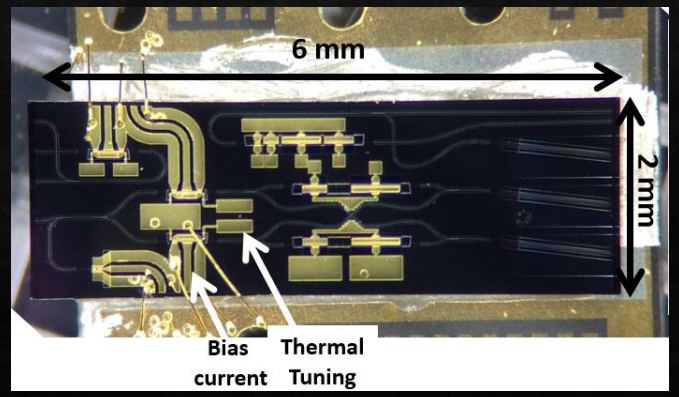
Integrated photonic transceivers at sub-terahertz wave range for ultra-wideband wireless communications
FP7 STREP running from 2010-2013



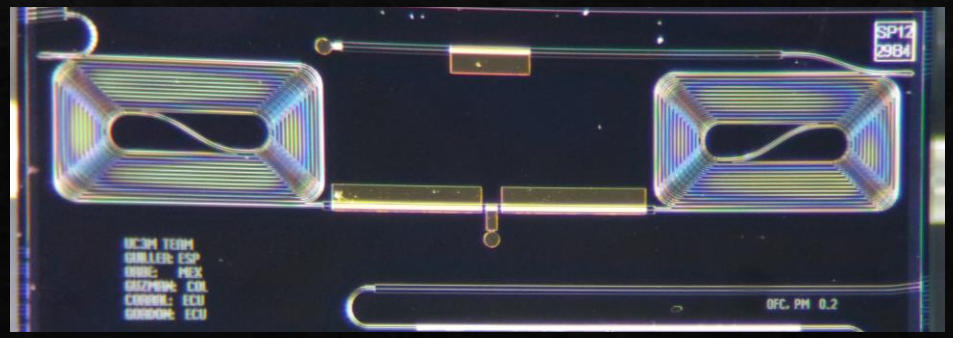
F. van Dijk et al., "Integrated InP Heterodyne Millimeter Wave Transmitter," PTL (2014)
***f* = 20 GHz – 115 GHz**



C. Gordón et al. "On-Chip Multiple Colliding Pulse Mode-Locked Semiconductor Laser" JLT (2016)
***f* = 100 GHz**



M.C. Lo et al., "Monolithically integrated microwave frequency synthesizer on InP generic foundry platform," JLT (2018)
f = 12 GHz – 500 GHz



R.C. Guzmán et al. "1-GHz InP On-chip Monolithic Extended Cavity Colliding-Pulse Mode-Locked Laser" Opt. Exp. (2016).
***f* = 1 GHz**

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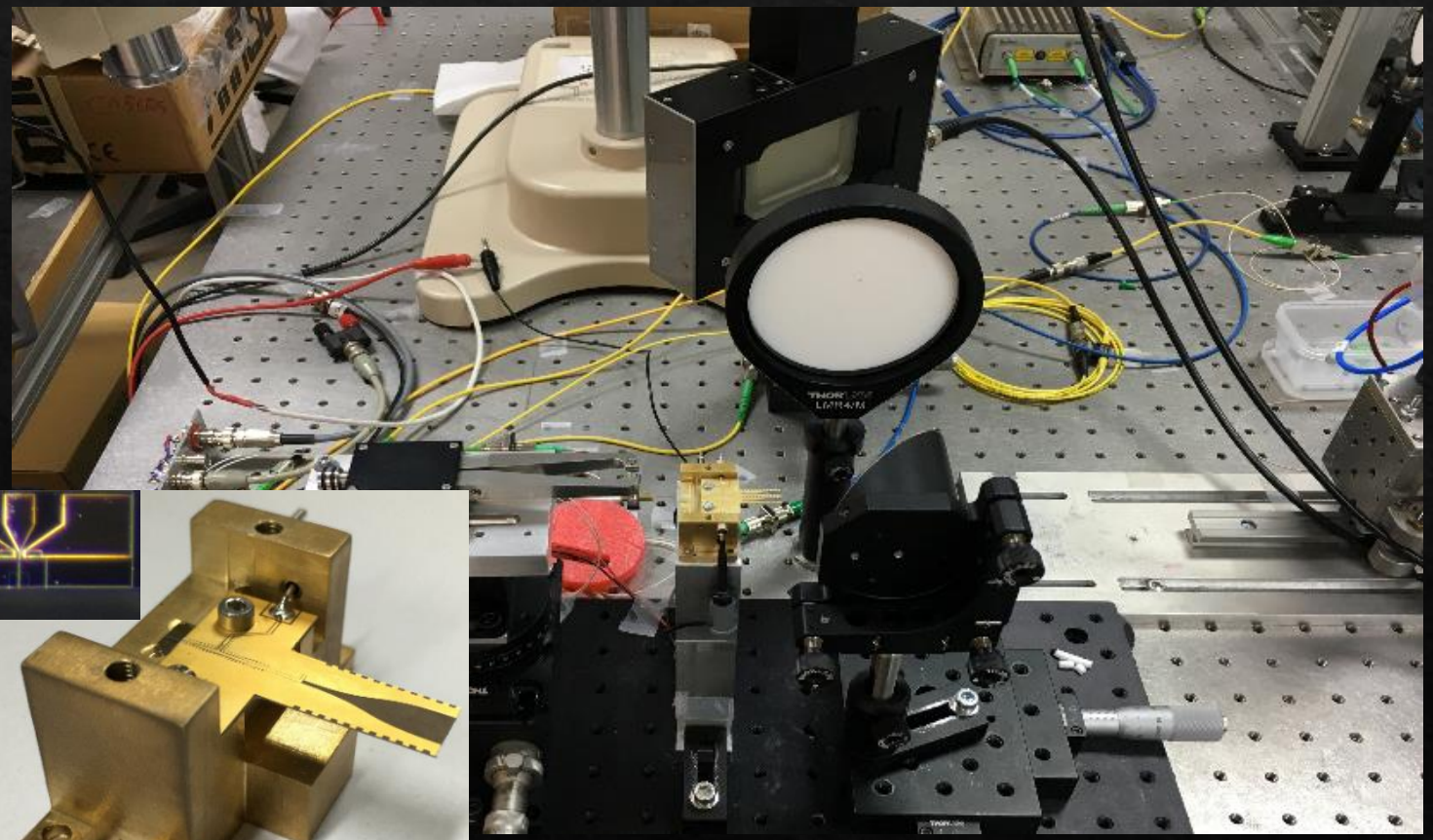
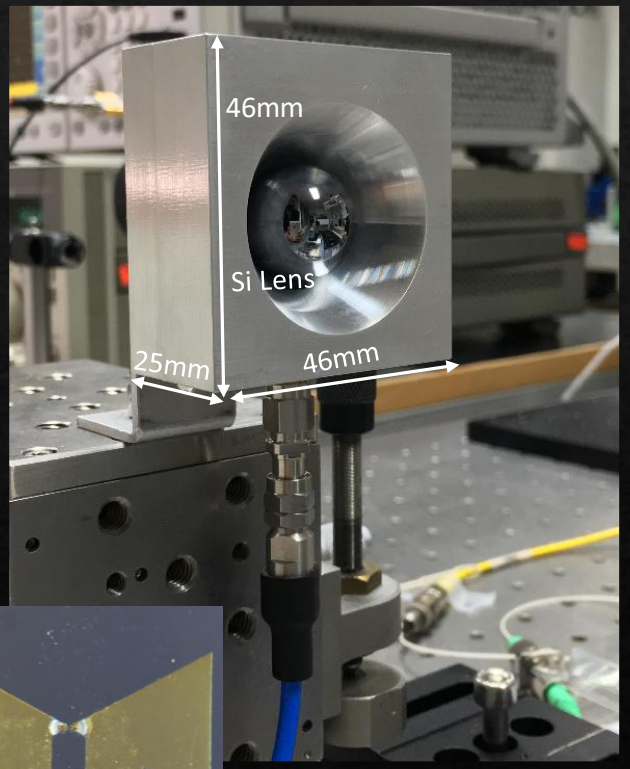
What do we offer?

Photonic IC and high frequency (wired & wireless) know-how





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What do we look for?
Challenges

TERAmeasure

Non-contact millimeter and Terahertz frequency measurement paradigm for instrumentation and sensing applications unlocking metrology-grade results

Research Executive Agency (REA) Grant Agreement number: 862788 under Horizon 2020 Excellent Science, Fostering Novel Ideas FET-open program.

https:// www.uc3m.es/research/terameasure

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