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Liam Barry animera un séminaire le 24 mars prochain.
Vous pouvez diffuser cette information à des collègues pouvant être intéressés par cette conférence.

Séminaire Foton / équipe Systèmes Photoniques
le mardi 24 mars 2015, 11h-12h (salle 110I)

Low cost tunable semiconductor laser products for use in next generation access networks

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Traffic on optical networks has grown exponentially since they were first introduced and this trend is expected to continue with growth rates of 30% per year forecast. NG-PON2 has been proposed to meet future demand in access networks. In common with existing access network architectures time division multiple access (TDMA) is utilised to share bandwidth between multiple users on the network, with each user being allocated a time slot in which to send and receive data. However, in a departure from previous access architectures wavelength division multiplexing (WDM) is being introduced to increase capacity, with potential for data rates of up to 40Gbit/s. In optical networks it is desirable to have colourless optical transmitters for a given application, which makes tunable lasers a requirement. In other parts of the network such as the core and metro networks tunable lasers are the transmitter of choice for optical transceivers and a wide range of technologies have been developed and deployed to address these markets. However, these devices tend to have relatively complex structures making them prohibitively expensive for deployment in the cost sensitive access market, at least in their current form.

Attainment of tunable laser diodes with the least associated level of device complexity and lowest component cost is likely to become a prerequisite for the successful mass deployment of WDM based PON systems. Eblana Photonics, DCU, ENSSAT, and Orange Labs propose this project to develop, characterise and test, tunable lasers suitable for NG-PON2 based on the so called 'Discrete Mode' (DM) laser diodes, that can significantly reduce the cost of manufacturing lasers compared to state of the art distributed feedback lasers (DFBs). The project will deliver proof of concept devices designed for use in NG-PON2, and will demonstrate their performance in real application scenarios.

2015 ANNÉE DE LA LUMIÈRE EN FRANCE

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