

PHOTONICS SEMINAR

Evolution of high capacity submarine systems

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Nozay, France

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138C

Abstract

In this seminar, we review the recent transformations that submarine optical communication networks have undergone for the past ten years, from end-to-end high capacity per fibre systems into open cables with novel design, physics and metrics, evolving towards massive spatial parallelism (SDM1) and optimized capacity per cable, while at the same time coherent technologies have led to rate-adaptive, software-defined transceivers approaching Shannon limits.



Jean-Christophe Antona (Ecole Polytechnique, 1998, Telecom Paris, 2000, PhD Telecom ParisTech, 2011) is currently in charge of Line Modeling and Advanced Studies within Alcatel Submarine Networks (ASN) in Nozay, France. He joined Alcatel Corporate Research Center in 2000 where he modeled Kerr-induced nonlinearities in terrestrial optical networks and achieved the physical design of large-scale demonstration experiments. Within Alcatel-Lucent Bell Labs, he headed the Dynamic Optical Networks research group until 2013, before joining ASN. He authored or coauthored more than 90 publications (including six post deadline papers at major telecommunication conferences) and 13 patent applications. His research activities have repeatedly been transferred into the physical design tools of terrestrial networks from Alcatel, Alcatel-Lucent and Nokia, and now in the submarine design tools of ASN.