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Djamel AMAR received the Master degree from Paul Sabatier University, France in 2012, and the Ph.D. degree from Telecom SudParis, France in 2016, both in Networking and Telecoms. He spent three years with Orange Labs (Lannion) as a research engineer working on multilayer dimensioning and design of Flex-Grid optical networks. In 2014, he received the Best Paper Award at the ONDM conference, which is one of the most prestigious conferences in the optical network domain. His main research interests include transport network architectures, and network dimensioning and design.

“Link design and legacy amplifier limitation in flex-grid optical networks ”

Abstract:

With the exponential growth of traffic, network operators are continually looking for a cost-effective approach in order to meet the ongoing need for capacity. Recently, some advanced features have been integrated into optical layer equipment leading to the notion of channel flexibility (i.e., optical channel width depends on the amount of traffic to be transported). This allows to save about 33% of fiber spectrum, introducing however some strategic and technological issues. For instance, the existing amplifiers should be replaced by more powerful but costly ones, due to the increase of the number of optical channels. This work proposes a novel approach that allows keeping in use the existing amplifiers with no impact on the expected benefits.