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High Capacity Optical Links for Datacentre Connectivity

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ABSTRACT

There is a timely and growing demand for high capacity optical data transport solutions to provide connectivity inside data centres and between data centres located at different geographical locations. The requirements for reach are in the order of 2 km for intra-datacentre and up to 100 km for inter-datacentre connectivity. Moreover, the requirements for such connectivity solutions include also low cost, high data rate and desirable features such as energy efficiency and reduced interfacing cost. In this paper we review several approaches for intra and inter datacentre that use advanced modulation formats and multiplexing techniques to cope with the requirement of high capacity as well as techniques for reach extension.

Keywords: datacentre, short-range communications, connectivity, optical communications.