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Optimization of optical modulation formats for high-speed short-reach connection

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With the popularization of data centre and other bandwidth hungry inter-connect applications, the desired capacity of short reach optical network has exponentially increased to 400 Gbit/s or even more. Recent standardization efforts for 400 G intra-data center connections specify link lengths of up to 2 km. 8x56 Gb/s or 4x100 Gb/s could enable such 400 G networks. Relative to coherent detection, Intensity modulation/direct detection (IM/DD) is a good candidate in inter-connect due to its low cost. For 56 and up to 100 Gb/s signal generation, a few modulation formats or schemes, such as pulse-amplitude-modulation (PAM4), discrete multi-tone (DMT), duobinary and chirp-managed laser (CML) are proposed and experimentally demonstrated. However, considering cost, size and power consumption, the modulation format should be optimized for different networks to meet different requirements. In this talk, we will discuss this issue how to optimize the modulation formats for different optical networks?

Biography

Jianjun Yu has completed his PhD in the year of 1996 from Beijing University of Posts and Telecommunications. He is the Professor of Fudan University. He has published more than 600 papers in reputed journals and has been serving as an Editorial Board Member of IEEE *Photonics Journal*, *JLT* and *JOCN*.

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