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Nonlinearity Compensation for Optical Communication Systems

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Message from the Guest Editors

Dear Colleagues,

The impact of Kerr nonlinearity on optical communication systems is widely recognized as one of the key challenges in the quest for higher transmission rates. Nonlinearity compensation techniques have, thus, received a significant attention over the past few years both in the academic environment and within industry. As a result, several impressive results have been reported in the literature: all-optical and digital approaches spanning from optical phase conjugation and twin-wave transmission on one side, and digital backpropagation and Volterra methods on the other have shown remarkable progress. Alternative approaches based on nonlinearity-tolerant transmission schemes have also been proposed. Finally, a few preliminary demonstrations have paved the way for combined all-optical and digital schemes in order to leverage the strengths of each domain and mutually mitigate their respective weaknesses. This Special Issue focuses on the latest research findings in the area of nonlinearity compensation, with a particular attention to proof of concepts for novel schemes and innovative system demonstrations.

Dr. Francesco Da Ros
Dr. Gabriele Liga
Guest Editors

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Message from the Editor-in-Chief

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