Special Issue

Forward Error Correction for Optical CDMA Networks

Message from the Guest Editor

O ptical networks have been studied for many years, offering high data rate transmissions capability due to large bandwidth. Originally developed for optical fiber medium, optical communications have gained interest in wireless optical networks, based on free space optics (FSO), underwater communications, or short distance indoor communications. Optical Code-Division Multiple-Access (OCDMA) technique has been identified as a promising solution to provide multiple access. However, OCDMA introduces Multiple-Access Interference (MAI), but also beat noise due to the multiple optical fields incident to the receiver, especially for high data rates. Although interference limitation or cancellation techniques can be used to reduce MAI impact, Forward Error Correction (FEC) is a good candidate in order to compensate for degradation due to both interference and noise sources. This Special Issue will collect new ideas in the field of error correction codes and describe promising FEC methods for Optical CDMA networks. Contributions addressing both error correction techniques applied to physical layer or higher-level mechanism are welcome in this context.

Guest Editor

Dr. Stephanie Sahuguede
CNRS, XLIM, UMR 7252, University of Limoges, 87000 Limoges, France

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Entropy
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
entropy@mdpi.com

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Editor-in-Chief

Prof. Dr. Kevin H. Knuth
Department of Physics, University at Albany, 1400 Washington Avenue, Albany, NY 12222, USA

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