Forward Error Correction for Optical CDMA Networks

Guest Editor:

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Message from the Guest Editor

Optical 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.

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Special Issue

Editor-in-Chief

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Message from the Editor-in-Chief

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