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IEEE Journal on Selected Areas in Communications

Data Communication Techniques for Storage Channels and Networks

Communication theory and engineering have played an exceedingly important role in the development of storage channels and networks. This role will become even more critical for the definition of future-generation systems. This special issue of the IEEE J-SAC will focus on recent advances in the application of data communication techniques to storage channels and networks. Both magnetic and nonmagnetic recording technologies will be of interest. Storage networks, including storage clusters and clouds, peer-to-peer networks, SANs, and disk arrays, will be addressed from an information and coding theory perspective. Emphasis will be placed on theoretical, implementation and performance evaluation aspects of new techniques and algorithms. The possible topics include, but are not limited to:

- Information theory for storage systems and networks
- Coding and decoding techniques for storage channels and distributed storage networks
- Design of error correction codes for storage channels and networks
- Network coding for distributed/networked storage
- Performance evaluation and system reliability of storage networks
- Channel and noise characterization techniques
- Synchronization and timing recovery
- Signal processing methods for servoing and tracking
- Signal equalization and data detection
- Turbo processing techniques and algorithms
- Read-channel architectures and VLSI design for storage channels

Original, previously unpublished research articles will be considered. Authors should follow the IEEE J-SAC manuscript format described in the Information for Authors, which can be found at http://jsac.ucsd.edu/Guidelines/info.html. Prospective authors are requested to e-mail their manuscripts to one of the Guest Editors according to the following timetable:

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