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Combined HQAM and Hybrid Relay Selection for Error Resilience Transmission

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ABSTRACT

This paper is concerned with relay networks and hierarchical modulation for error resilience transmission. The advantage of Hierarchical QAM-based UEP is that a high performance of protection under the high-to-moderate noise conditions is obtained, without an increase in bandwidth, but at the same time decreases the overall quality at low noise conditions. On the other hand, it has been proven that hybrid relaying achieves excellent performance at low noise conditions. Therefore, a combination of the two methods can take advantages of both. This is the main motivation of this paper. Through the means of combination, the combined scheme of UEP results in the overall quality improvement of transmitted data, especially under moderate-to-high SNR values. It has produced better BER and PSNR performance than the individual HQAM and HRSP UEP schemes.

Keywords. Hierarchical QAM, Hybrid Relay Selection, Error Resilience.