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Incremental-Relaying Cooperative-Networks using Dual Transmit Diversity and Decode and Forward Relaying Scheme with Best Relay Selection

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Abstract: A new incremental-relaying cooperativediversity technique with a simple dual transmit diversity, decode-and-forward and best relay selection scheme is presented. Closed-form expressions for the the bit error rate, the signal to noise ratio outage probability, and average achievable rate are derived using binary phase shift keying modulation scheme over independent nonidentical Rayleigh fading channels. The results show that the simple space time block coding scheme with the incremental-relaying cooperative diversity and best relay selection outperforms the regular incremental fixed cooperative diversity and saves resources