

THE PERFORMANCE ANALYSIS OF MULTI-USER WCDMA SYSTEMS USING D-STBC IN RAYLEIGH FADING CHANNEL

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(Pt9)Abstract— The development of wireless communication systems is focusing to provide a link with a high capacity and good quality. The multi-hop communication system using relay's diversity with a reliable coding is designed to fulfil the above requirements. Using multi-user WCDMA system, this research applies the above multi-hop technique using a relay with Alamouti code which can be defined as Distributed- Space Time Block Code or D-STBC. Therefore it does not need multi antenna but act like MIMO and that is why it is also called virtual MIMO using a co-operative multi-hop system.

The simulation results show that the 2x1 virtual MIMO multi hop system performs better than a single hop system. Targeting BER of 10^{-3} , the multi hop system give 12 dB gain compared with a single hop system.

(Pt9)Keyword— Alamouti, STBC, DSTBC, Multi-Hop System, Relay's Diversity, Virtual MIMO



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