

Mário Marques da Silva, Rui Dinis, Américo Correia, "Joint Detection and Channel Estimation for SC-FDE with STBC" – 2009 Asia-Pacific Conference on Communications (APCC 2009), Shanghai, China, 8-10 October 2009.

Abstract: We consider block transmission techniques combined with rate-1 space time block coding (STBC) for two or four transmit antennas. Since our STBC with 4 transmit antennas is not orthogonal, our receiver includes the cancellation of the residual interference, allowing performances close to the ones of an orthogonal code. We propose an iterative STBC receiver with joint detection and channel estimation. Our performance results show that the proposed single channel - frequency domain equalization (SC-FDE) STBC receiver allows excellent performance with the use of channel data obtained from channel estimation.