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# Interference cancellation with combined pre-distortion filtering and transmit diversity

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It is intended to specify a new pre-distortion (PD) filtering technique, which can be used to combat the multiple access interference (MAI), combined with two kinds of transmit diversity (TD), namely the selective transmit diversity (STD) and the space-time transmit diversity (STTD) for high data rate transmissions over frequency selective Rayleigh fading channels. By pre-distorting the signals to be transmitted by the base station (BS) with a minimum variance (MV) algorithm, the orthogonality between the desired signal and all interfering signals can be improved. We combine the PD with STD and with STTD, allowing a reduction in the MAI and combating the fading. The increase in performance is achieved with a small increase in power processing in the BS, avoiding any need to increase

**Published in:**  
Personal, Indoor and Mobile Radio Communications, 2003. PIMRC 2003. 14th IEEE Proceedings on (Volume:2 )

**Date of Conference:**  
7-10 Sept. 2003

**Page(s):**  
1598 - 1602 vol.2

**Print ISBN:**  
0-7803-7822-9

**INSPEC Accession Number:**  
8015378

**DOI:**  
10.1109/PIMRC.2003.1260384

**Publisher:**  
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