MAI cancellation with commutation signaling

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This paper deals with PIC-parallel interference cancellation with and without the ISI cancellation system-commutation signaling (CS), in a deep Rayleigh fading environment, time and frequency selective, assuming the spreading sequences and the features of the channels of the several interfering users is known. It is proved that PIC lead to good profits especially when the CS technique is used together, because these systems subtract the MAI estimated for each user. These estimates improve when the ISI is cancelled, since the MAI estimated depends upon the estimate of the transmitted symbols by each interfering user. Additionally, it considers the blind detection (without knowledge of spreading sequences nor the features of the channels of the interfering users) with a noise whitening matched filter (NWMF) that combats the MAI through the whitening of the interfering power spectrum (following the single-user philosophy)

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