PERFORMANCE DEGRADATION DUE TO BLINDNESS IN SEPARATION OF MIMO–FIR SYSTEMS OVER COST207 CHANNELS (WedPmPO1)

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Abstract :  This paper considers the performance penalty of a blind, compared to a non–blind, separation technique of a MIMO–FIR channel. In the blind method the mixing filters are first identified, while they are assumed to be known in the non–blind case. The blind system identification is performed using a recently proposed method based on cumulant subspace decomposition. Separation is then achieved by the FIR part of the mixing system inverse, which minimizes the cross–channel power. The performance penalty due to blindness is investigated for the case when the channel order is underestimated. Results of average residual cross–channel power of the wireless COST207 channel model are included.