Nuno Souto, João C. Silva, Américo Correia, Francisco Cercas, Mário M. Silva, António Rodrigues, Adriano Santos, "Multi-User Detector Schemes for the UMTS Uplink Transmission" - ISSSTA 2004, Sydney, Australia, 31Aug-02Sept 2004;

Abstract: This paper focuses on performance results obtained using multi-user detector (MUD) techniques for the Universal Mobile Telephony System (UMTS) uplink transmission. Both parallel interference cancellation (PIC) and successive interference cancellation (SIC) schemes are studied and compared. Factors such as the number of iterations, decision method (hard/soft/clipped), type of service (64/144 kbit/s) and number of simultaneous users are analyzed, for the main UMTS channels (indoor A, pedestrian A, vehicular A), in order to quantify the performance gain of each combination, and decide what schemes yield the least amount of errors under which conditions. Bit and block error rate (BER and BLER respectively) results obtained via simulation are presented and discussed.