Mário Marques da Silva, Américo Correia, “Space Time Diversity for the Downlink of WCDMA” – IEEE – Wireless Personal and Mobile Communications – WPMC’01 (Aalborg - Denmark), 9-12 September 2001;

Abstract: This work describes a new transmission diversity scheme for the downlink of the WCDMA system. The new transmission diversity scheme is spectrally efficient and resistant to fading. The base station uses M=2 transmitting antennas and the mobile has only one receiving antenna. The diversity scheme known as Space Time Transmit Diversity (STTD), accepted as an option in the 3GPP Specifications [1], for the downlink of the WCDMA system is included in the new scheme. So the new diversity scheme belongs to the open loop class. The single data stream in the input is de-multiplexed into M sub-streams. Every burst with L symbols in each sub-stream is rotated to a new constellation, further processed according to STTD algorithm and transmitted by its antenna. The detection is also done by bursts of L received symbols.