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Abstract

Receiver method and apparatus for space-time coded CDMA signals

A receiver is proposed for receiving space-time coded signals transmitted by a base station 1 having multiple aerials. The space-time coded signals are, in
5 a known manner, obtained from data intended for multiple users which has been scrambled using a scrambling code for each user and spread by a spreading code for the base station 1. The receiver includes a processing branch for each of the aerials of the transmitter. Each branch includes a corresponding adaptive filter 131, 13M and a decoder 171, 17M which
10 receives the spreading codes for the user associated with the receiver. The outputs of all the branches are transmitted to a space-time decoder 21 where they are used in combination to obtain an estimate of the data intended for the corresponding user. During a learning phase the adaptive filters 131, 13M are updated by adaptive filters 151, 15M based on a comparison of the output of
15 the decoder 21 with training data.

Fig. 2