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(54) Title: CODE INTERLEAVING FOR WALSH CODES

(57) Abstract: Communication systems and methods that mitigate false alarms due to Doppler shift are disclosed. Received message data is mapped to orthogonal Walsh codes, interleaved and scrambled with appropriate PN sequence prior to transmission. The transmitted message data is descrambled and deinterleaved upon reception. The energies associated with each of the Walsh code from various antennas and/or signal paths are combined to obtain a total energy for each Walsh code. If the total energy of the Walsh code exceeds a certain threshold it is declared as the received message else an erasure is indicated. As the data is interleaved prior to transmission, any phase ramp introduced due to Doppler is transformed into random phase errors upon deinterleaving at the receiver thereby mitigating false alarms.

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