

Polarisation-Angle-Delay Estimation for Blind Localisation Approaches under Multipath Propagation

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Abstract:

A new method to estimate the polarisation, angles-of-arrival and delay of multiple waves impinging at an antenna array is presented. The method is developed for blind localisation approaches of a single transmitter under multipath propagation. Therefore, no knowledge about the transmitter and a SIMO radio channel is assumed. Based on cross relations between the receiver channels, a cost function is derived, which have to be optimised for parameter estimation purposes. A method to estimate the number of impinging waves is also presented. The method is validated with simulations and test measurements.