CUBIC PHASE COUPLING ESTIMATION VIA TRISPECTRUM AUTORREGRESIVE MODELLING (TueAmPO4)

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Abstract :

In this communication it is analysed the feasibility of using AR modelling for cubic phase coupling estimation. After a revision of parametric methods to retrieve coupled phase frequencies using the signal trispectrum, it is proposed a procedure to perform the parametric modelling of the trispectrum to locate spectral peaks. This procedure is based on a twofold AR modelling of data, and the extraction of two sets of coefficients, named frequency and sum coefficients to locate the coupled frequencies. The a frequency selection method is proposed which overcomes some problems encountered in these kind of methods and reduces the computational burden associated to the maximum−detection algorithms in the trispectral domain. Practical conditions to implement it, and the limitations of using this approach are discussed and showed in simulations.

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