Manifold ambiguities in higher-order statistics-based direction-finding systems / Supawat Supakwong

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Abstrak

ABSTRAK
Subspace-based direction-finding methods assume that all sources manifold vectors are linearly independent. However, when this condition is not satisfied, the estimation methods will subsequently fail to identify the directions of the sources. This undesirable effect is referred to as a manifold ambiguity. In this paper, the presence of anifold ambiguity associated to a higher-order statistics-based array processing is investigated. By analyzing the geometrical shape of the corresponding array manifold, a class of ambiguous sets based on a
uniform partition of the effective manifold curve can be found. A general procedure is provided in order to model and categorize these ambiguities into the form of ambiguous generator sets.