论文

信号源功率不一致对MUSIC算法分辨性能的影响

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摘要
该文首先定义了用以度量MUSIC算法分辨性能的平均信噪比分辨门限,并给出它的表达式。然后通过数据模拟得知,功率不一致会降低MUSIC算法的分辨能力;在一定条件下,功率不一致对MUSIC算法分辨性能的相对影响与其他参量无关。该文还讨论了功率不一致对阵元数、快拍数和两信号源方位参数绝对差的影响。

关键词 信号处理 MUSIC算法 分辨性能 平均信噪比分辨门限

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Effect of Power Difference of Two Signal Sources on Resolving Performance of MUSIC Algorithm

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Abstract
This paper defines the mean SNR's resolving threshold which can measure the resolving performance of MUSIC algorithm, and deduces the expression of the resolving threshold. The data simulation show that the power difference of the two signal sources can reduce the resolving ability of MUSIC algorithm, that the relative effect of the power difference on the resolving performance of MUSIC algorithm has nothing with other parameters under certain condition. This paper also discusses the effect of the power difference on the number of array element, the number of snap shot and the absolute subtract of the two signal sources' orientation parameter.

Key words Signal processing MUSIC algorithm Resolving performance Mean SNR's resolving threshold

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