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基于互相关和MUSIC算法的时延估计 (PDF)

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Title: Time Delay Estimation Based on Cross - correlation and Multiple Signal Classification

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关键词: 互相关函数; 多重信号分类; 时延估计

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摘要: 为了避免相位干涉仪测向技术中存在的模糊问题，提高宽带信号时延估计的测量精度，把互相关和多 重信号分类算法结合，引入到频域时延估计领域，研究了互相关MUSIC算法。利用互相关技术可消除非相 关噪声，检测概率增加，减小了运算量。仿真结果表明，该算法具有较高的估计精度，较强的抗噪性和较强的 鲁棒性，适用于电子对抗领域中的时延估计。

Abstract: For avoiding fuzzy in the direction - finding technology of p hase interferometer, and for improving measuring precision of wideband signal delay estimation, the combination of c ross - correlation function and multiple signal classifi - cation (MUSIC) algorithm was introduced to the field of time delay e stimation (TDE) in frequency domain. A MUSIC based on cross - correlation function high precision TDE algorithm w as researched. The irrelevant noise can be complete - ly eliminated by the cross - correlation method in theory , and comp utation is reduced, the detection probability increa - ses. The simulation results show that the algorithm is featured wit h high precision and robustness, fitting for TDE in e - lectronic countermeasure.

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