

学术探讨

基于Hermite窗函数的多窗口时频重排方法

于凤芹, 范树凯

江南大学 通信与控制工程学院, 江苏 无锡 214122

收稿日期 修回日期 网络版发布日期 2007-8-20 接受日期

摘要 从提高时频聚集性和抑制重排振荡的角度出发, 提出了一种以正交Hermite函数作为窗函数的多窗口时频重排算法。该算法既保持了重排的高时频聚集性又具有多窗口谱分析低方差、高分辨率等优点, 同时也降低了由重排引起的振荡波动。仿真实验结果表明该方法对相距很近的两线性调频信号和非线性调频信号都非常有效。

关键词 [Hermite函数](#) [多窗口](#) [时频重排](#) [非平稳信号](#)

分类号

Multiple window time-frequency reassignment based on Hermite window functions

YU Feng-qin, FAN Shu-kai

School of Communication and Control Engineering, Southern Yangtze University, Wuxi, Jiangsu 214122, China

Abstract

In order to improve the time-frequency resolution and the capability of restraining reassigned fluctuations, a method based on the multiple window time-frequency reassignment has been proposed to analyse the signal's time-frequency structure. This algorithm uses orthogonal Hermite functions as window functions which not only maintains a sharp location of reassignment, the low variance, high resolution of multiple window but also reduces the statistical fluctuations caused by reassignment at the same time. Simulation results demonstrate that the method is very effective for both the multicomponent signals consisted of two nearly closed Linear Frequency Modulation (LFM) signals and nonlinear frequency modulation (NLFM) signals.

Key words [Hermite function](#) [multiple window](#) [time-frequency reassignment](#) [nonstationary signals](#)

DOI:

通讯作者 于凤芹 [E-mail: shukaifan@yahoo.com.cn](mailto:shukaifan@yahoo.com.cn)

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(1062KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“Hermite函数”的 相关文章](#)

▶ [本文作者相关文章](#)

· [于凤芹](#)

· [范树凯](#)