

## 航天电子技术

### 基于Metropolis-Hastings抽样的系统误差配准方法

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摘要:

针对目标运动模型不完全的跟踪系统,为解决系统误差配准问题,提出一种基于Metropolis-Hastings抽样的系统误差配准方法。该方法通过系统误差的最大似然估计导出的等效概率平稳函数作为Metropolis-Hastings算法要求构造的概率密度函数,同时给出不同的提议函数来提高系统误差空间分布的全局性。对时变和时不变系统误差情况分别进行了仿真,仿真结果表明,所提方法在考虑系统误差统计特性的同时对解决系统误差配准问题具有有效性和可行性。

关键词: 系统误差;误差配准;最大似然估计;Metropolis-Hastings抽样

### system error registration based on Metropolis-Hastings sampling

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Abstract:

In order to resolve system error registration in target tracking system which has inadequacy maneuvering model, a novel system error registration method based on Metropolis-Hastings sampling is proposed. This method gains an equivalent probability density distribution function derived from system error maximum likelihood estimation and regards it as a probability density function suitable for Metropolis-Hastings sampling. Besides, using different proposal functions to improve sample overall capacity in system error space. Two scenes which include time-varying and time-invariant system errors are simulated. Simulation results show that this method not only considers the statistical characteristics of system errors but also resolves the registration of system errors.

Keywords: system error error registration maximum likelihood estimate Metropolis-Hastings sampling

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