

博士论坛

## 基于均匀置乱的图像位置置乱衡量方法

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摘要

由于图像置乱分成位置和像素值置乱两类, 图像置乱衡量也从这两方面进行分析。目前基于像素值的衡量效果依赖于原始图像, 存在局限性; 基于位置的衡量随着置乱距离的不同效果也有很大偏差, 同样存在局限性。从图像位置置乱的实质出发, 提出均匀置乱的概念, 从偏离度和均匀度的角度对图像位置置乱效果进行衡量。通过对大量实验结果的分析得出, 该衡量算法可以准确地衡量图像置乱程度, 与人的视觉评价保持一致, 具有可行性和有效性。

关键词 [图像加密](#) [位置置乱](#) [均匀置乱](#) [衡量](#)

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## Evaluation algorithm of image position scrambling based on even scrambling

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### Abstract

Image scrambling is evaluated from position and pixel value according to the kind of image encryption. Currently, the evaluation effect of pixel value depends on the original image which has limitation. The evaluation effect of position maybe bring huge difference according to different distance which has limitation too. From the scrambling essential, the concept of even scrambling is presented. At the same time, an evaluation algorithm of image position scrambling is put forward based on deviation and evenness. The experiment results show that the algorithm can accurately evaluate the image scrambling degree and keep uniformity with visual, and has feasibility and validity.

Key words [image encryption](#) [position scrambling](#) [even scrambling](#) [evaluation](#)

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