

[2007-0703]一种新的空域抗几何攻击图像水印算法

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摘要

提出了一种基于特征与量化的空域抗几何攻击图像水印算法(FAQ)。采取的主要方法有: 1) 利用图像中的局部最稳定特征点生成具有几何不变性的圆形特征区域, 用于水印的同步; 2) 将特征区域分解为具有旋转不变性的扇形区域, 并在空域利用奇偶量化嵌入水印; 3) 设计了一种奇偶检测器盲提取水印。实验结果表明FAQ算法能获得很高的图像质量, 且能有效地抵抗常规信号处理攻击, 旋转、缩放、平移(RST)攻击及其组合攻击。

关键词 [数字水印,几何攻击,特征点,奇偶量化](#)

分类号

A New Spatial Domain Image Watermarking Scheme Resisting Geometric Attacks

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Abstract

In order to resist geometric attacks, a novel spatial domain image watermarking scheme (FAQ) using feature point and quantization is presented. The main methods adopted include: 1) Watermark synchronization is achieved by invariant local circular regions which can be generated using image locally most stable feature points; 2) Fan-shaped sub-regions are generated in a rotation invariant pattern by partitioning the local region, and the watermark bits are embedded in spatial domain by odd-even quantization; 3) An odd-even detector is designed to extract the watermark blindly. Experimental results show that FAQ achieves high image quality, and it can efficiently resist traditional signal processing attacks, rotation, scaling, translation (RST) attacks as well as some combined attacks.

Key words [Digital watermark](#) [geometric attack](#) [feature point](#) [odd-even quantization](#)

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