

论文与技术报告

基于局部块效应的JPEG伪造图像的盲取证

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摘要:

本文基于对JPEG图像整体块效应的分析, 定义了新的针对图像局部区域的块效应评价, 并由此提出了一种有效的JPEG伪造图像盲取证方法。首先获得图像在水平方向和垂直方向的差分图像, 然后将两个方向的差分图像分别进行特定大小的分块, 再计算每个分块局部区域的块效应评价, 根据待测图像不同区域局部块效应评价的明显差异检测出图像被篡改的位置。实验结果表明, 该方法可以有效的检测出经过JPEG双压缩的伪造图像。

关键词: 块效应; 伪造图像; 盲取证; JPEG双压缩

Blind Forensic of JPEG Forgeries Based on Local Blocking Artifacts

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Abstract:

This paper presents a new block artifact measure of the images local area and a simple method of blind forensic of JPEG forgeries on the basis of analyzing the overall block artifact of the JPEG images. Firstly, we calculate the horizontal and vertical differences maps of the JPEG image, and then divide the two maps into many sub-blocks with a specific size. Secondly, we measure the block artifact of each sub-block on the local area using the new method. Finally, the detection and location of doctored region is realized via checking significant differences of block artifact in different local areas. The experimental results validate the proposed approach in blind detecting the tampered area of the double JPEG compressed images.

Keywords: block artifact image forgery blind forensic; double JPEG compression

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