论文

线性退化二值图象的最大熵复原法

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摘要
本文主要用最大熵方法对线性退化二值图象的复原进行了研究。利用原始图象的二值特性,提出了二值约束的最大熵复原方法,并对其解的存在性和唯一性进行了论述,对双约束最大熵的求解问题给出了算法;运用最大有界熵概念,提出了二值约束的最大有界熵复原法。文中将上述复原法同维纳滤波法和最大熵法进行了比较,实验结果表明,用二值约束的最大(有界)熵法复原线性退化图象可以提高复原的质量。

关键词　图象复原　二值图象　最大熵　最大有界熵　最优化

分类号

MAXIMUM ENTROPY RESTORATION METHOD OF LINEARLY DEGRADED BINARY IMAGE

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Abstract
According to the binary nature of image, a new maximum entropy restoration method with binary constraint is proposed The properties of existence and uniqueness of solution are discussed. The problem of maximum of entropy with double constraints is solved and corresponding algorithm is given. Maximum bounded entropy principle is employed concerning the prior knowledge of binary image, the maximum bounded entropy restoration method with binary constraint is put forword. The proposed methods, Wiener filter restoration method and maximum entropy restoration method are compared, it is proved by experiment that maximum entropy restoration method with binary constraint and maximum bounded entropy restoration method with binarv constraint can improve the quality of blur binary image.

Key words　Image restoration　Binary image　Maximum entropy　Maximum bounded en- tropy　Optimization

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