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图像描述中Delaunay三角形网格的快速生成方法

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摘要 针对DT模型基图像编码方法不能实现实时编码的不足，根据图像的多分辨率表示方法，采用分层搜索的思想，提出了一种基于MD或MV准则的图像描述中DT网格的快速生成方法，通过逐渐精细的搜索步长搜索网格节点，减少了逐点搜索的次数，从而节约了时间，提高了运算效率.实验表明，与基于MD或MV准则的一般方法相比，该方法生成DT网格的速度提高了近一倍，同时恢复图像保持了相近的质量;与其他一些方法相比，在相同的网格生成时间限制下，恢复图像的质量明显提高.

关键词 Delaunay三角形网格 多分辨率搜索 图像描述

分类号 TP391

Fast method for Delaunay triangulation mesh generation in image representation

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Abstract

Considering the failure of real time coding application in the DT model-based image coding scheme, a fast method to generate the Delaunay Triangulation mesh for image representation based on the MV or MD criterion is proposed by using the idea of multi-resolution searching. It searches the mesh nodes with gradual subtle step length in generation of the mesh by which the total of searching points is reduced one by one,so time can be saved and the computational efficiency improved. Simulation result shows that the proposed method saves almost one half time while keeping finely reconstructed image quality compared with the general method based on the MV or MD criterion, and that it still can get more accurate image representation under the same mesh generation time compared with the other existing methods.

Key words Delaunay traingulation mesh multi-resolution searching image representation

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