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Quantitative Performance Analysis of Hybrid Mesh Segmentation

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Abstract

This paper presents a comprehensive quantitative performance analysis of hybrid mesh segmentation algorithm. An important contribution of this proposed hybrid mesh segmentation algorithm is that it clusters facets using “facet area” as a novel mesh attribute. The method does not require to set any critical parameters for segmentation. The performance of the proposed algorithm is evaluated by comparing the proposed algorithm with the recently developed state-of-the-art algorithms in terms of coverage, time complexity, and accuracy. The experimentation results on various benchmark test cases demonstrate that Hybrid Mesh Segmentation approach does not depend on complex attributes, and outperforms the existing state-of-the-art algorithms. The simulation reveals that Hybrid Mesh Segmentation achieves a promising performance with coverage of more than 95%.

Keywords

CAD mesh model Coverage Feature recognition Hybrid mesh segmentation Interacting features

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