Abstract

Catmull-Clark Subdivision surfaces is one of the most widely used techniques for smoothing surfaces by successive refinement of a control mesh, widely used in computer animation but limited on CAD applications. This paper is related to surface fitting stage within 3D digital surface reconstruction and propose a method for surface fitting by Catmull-Clark Subdivision, based on mesh quadrangulation using spectral analysis and Morse Theory.

Keywords

Catmull-Clark Subdivision, Subdivision Surfaces, Surface Smoothing, 3D Objects Representation.