

Subdivision schemes for the refinement of geometric objects

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Subdivision schemes are efficient computational methods for the design, representation and approximation of surfaces of arbitrary topology in 3D. Subdivision schemes generate curves/surfaces from discrete data by repeated refinements. This talk is mainly concerned with "classical" schemes refining control points, and their applications in geometric modeling. The relation of subdivision schemes to the construction of wavelets is also discussed. The last part of the talk reviews subdivision schemes refining other objects, such as compact sets and nets of curves. Examples of various schemes are presented.