

# Surface Animation and Riemannian Shape Calculus

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Hörsaal Informatik

Splines and subdivision curves are flexible tools in the design and manipulation of curves in Euclidean space. We study generalizations of interpolating splines and subdivision schemes to

of a given set of key frame control meshes. Using a variational time discretization of geodesics efficient numerical implementations can be derived. These are based on a discrete geodesic interpola-



the Riemannian manifold of shell surfaces in which the associated metric measures both bending and membrane distortion. This enables the animation of shells via the smooth interpolation

tion, discrete geometric logarithm, discrete exponential map, and discrete parallel transport.