On Tension Spline Construction
by Difference Method

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Abstract. Hyperbolic tension splines are defined as solutions of differential multipoint boundary value problem. For computations we use a difference approximation of that problem. This permits to avoid calculations of hyperbolic functions, however, the extension of a mesh solution will be a discrete tension spline. We consider the basic computational aspects of this approach.

Keywords: Hyperbolic tension splines, multipoint boundary value problem, discrete tension splines, shape preserving interpolation.