

NUMERICAL INTEGRATION ON SCATTERED DATA BY LOBACHEVSKY SPLINES

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In this paper we investigate the problem of numerical integration on scattered data by a class of spline functions, called *Lobachevsky splines*. Thus, starting from the interpolation results given in [1, 2], we focus on the construction of new cubature formulas. The use of Lobachevsky splines takes advantages of their feature of being expressible in the multivariate setting as a product of univariate functions. Numerical results using Lobachevsky splines turn out to be interesting and promising, for both good accuracy and simplicity in computation. Finally, a comparison with radial basis functions (RBFs) [3, 4] confirms the goodness of the proposed approach.

References

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