A SPECIAL CASE ON MODIFIED LACUNARY INTERPOLATION SPLINES

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Abstract

A special modified $(0, 2; 0, 3)$ lacunary interpolation scheme where the data were prescribed unevenly at even and odd nodes of an arbitrarily defined partition of the unit interval $I = [0, 1]$.

Given the function values and second derivatives at odd nodes, whereas function values and the third derivative at even nodes, it was proved that there exists a unique quintic spline of continuity class C^2 solving the above mentioned interpolation scheme. Furthermore, it was proved that this spline function also converges to the given function with the desired order of accuracy.

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