Abstract

Let $f$ be a real valued function defined in $[0, 1]$, with values known at intermediate points such that the first derivatives of $f$ at all nodes are also known at intermediate points. In this paper, we construct an interpolatory quartic spline $s$ which interpolates the function $f$. Unique existence and convergence of this spline are also established. This type of construction is known to have found aesthetic utility in finding areas under or bounded by polynomial curves.

References

Using a Quartic Spline Function for Certain Birkhoff Interpolation Problem


Index Terms

Computer Science

Applied Mathematics

Keywords

Lacunary interpolation spline diagonal dominance