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Weighted convergence of Lagrange interpolation based on Gauss-Kronrod nodes. (English)

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This is a very good survey of the Lagrange interpolation processes based on Gauss-Kronrod nodes, that is on the zeros of Legendre polynomials and associated Stieltjes polynomials. Written by two leading experts, the paper reflects their many contributions to the field and includes several new results that generalize and complete the existing ones. The authors state necessary and sufficient conditions for the L^p weighted convergence of interpolation processes, prove that the Lagrange interpolation polynomials, with both the Gauss-Kronrod nodes and the Stieltjes zeros, are equivalent to the polynomials of best approximation in certain weighted Besov spaces. Interesting asymptotic relations and an inequality of Stieltjes polynomials are obtained. An exhaustive up-to-date list of 57 references completes this interesting and well-written paper.

Reviewer: [Luigi Gatteschi \(Torino\)](#)

MSC:

[41A05](#) Interpolation in approximation theory

Cited in 1 Document

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