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Abstracts of Talks

Numerical construction and error bounds of quadratures with multiple nodes

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This is a survey on recent results in the theory of quadrature rules with multiple nodes, as well as s - and σ -orthogonality. New simple and numerically stable algorithms for constructing nodes and weight coefficients in these quadratures are described. Such algorithms can be used in construction for measures with bounded and unbounded supports. For the measures supported on $[-1, 1]$ and the class of analytic functions in $D (\supset [-1, 1])$ we give very precise L^p -error bounds for our quadratures with multiple nodes, where $p \geq 1$. In particular, we analyze the case $p = 2$. Numerical examples are included.