Construction of the optimal set of quadrature rules in the sense of Borges

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Abstract

We investigate a numerical method for the construction of an optimal set of quadrature rules in the sense of Borges [1] for $r \geq 2$ definite integrals with the same integrand and interval of integration, but with different weight functions, related to an arbitrary multi–index. The presented method is illustrated by numerical examples.

Keywords: Multi-index, Optimal set of quadrature rules, Multiple orthogonal polynomials

References

1. Borges, C.F., On a class of Gauss–like quadrature rules, Numer. Math. **67**, 271–288 (1994).