

A NEW CLASS OF QUADRATURE RULES FOR ESTIMATING THE ERROR IN GAUSS QUADRATURE

S. M. Spalević

Department of Mathematics, University of Beograd
Kraljice Marije 16, Belgrade, Serbia
`sspalevic@mas.bg.ac.rs`

Averaged Gaussian quadrature rules are introduced as alternatives to the Gauss-Kronrod quadrature rules, when we use them for estimating the error of the corresponding Gauss quadrature rules. Their lack might be that they are not always internal. In those cases we introduce the new averaged Gaussian quadratures NAG, which can be used as an alternative to the averaged Gaussian quadrature rules, especially in the cases when the former rules are internal and the latter are not. We present here in short a part of the results that are obtained jointly with A. V. Pejčev, L. Reichel and M. M. Spalević (cf. [1]).

References

- [1] A. V. Pejčev, L. Reichel, M. M. Spalević, S. M. Spalević, *A new class of quadrature rules for estimating the error in Gauss quadrature*, Appl. Numer. Math., 204 (2024), pp. 206–221.