

# On the NAG Quadrature Rules

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## Abstract

The averaged Gaussian quadrature rules and the optimal ones are introduced as alternatives to the Gauss-Kronrod quadratures, when we use them for estimating the error of the corresponding Gauss quadratures. 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 and the optimal ones, 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 on the construction and internality of the NAG quadratures that are obtained jointly with A. V. Pejčev, L. Reichel and M. M. Spalević (cf. [1]).

**Keywords:** Averaged Gaussian quadrature rules, NAG quadrature rules, internality

## References

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