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BOOK OF ABSTRACTS

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Anti-Gaussian quadrature rules related to multiple orthogonal polynomials

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ABSTRACT:
Multiple orthogonal polynomials represent one of the generalizations of orthogonal polynomials, in the sense that they satisfy orthogonality with respect to r different weight functions simultaneously. Anti-Gaussian quadrature formulas on the space of algebraic polynomials were introduced in 1996 by Laurie ([1]). These quadrature formulas have the property that their error is equal in magnitude but of opposite sign to the corresponding Gaussian quadrature rules. Here, we analyze a set of anti-Gaussian quadrature rules for the optimal set of quadrature rules in Borges' sense (see [2]), which refers to the observed multiply orthogonal polynomials, and define a set of averaged quadrature formulas.

Keywords: multiple orthogonal polynomials, anti-Gaussian quadrature rule, optimal set of quadrature rules in Borges' sense

References:
[1] D. P. Laurie, Anti-Gaussian quadrature formulas, Math. Comp. **65**(214) (1996), 739-747.
[2] C. F. Borges, On a class of Gauss-like quadrature rules, Numer. Math. **67** (1994), 271-288.