

FREQUENCY VARIANT OF EULER TYPE IDENTITIES AND THE PROBLEM OF SIGN-CONSTANCY OF THE KERNEL IN ASSOCIATED QUADRATURE FORMULAS

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Abstract. In the recent years many authors used extended Euler identities to obtain generalizations of some classical quadrature formulas with the best possible error estimates. The main step in obtaining the best possible error estimates was to control zeros of the kernel in the error term which consists of the affine combinations of the translates of periodic Bernoulli polynomials. This was done for some low degrees of Bernoulli polynomials. The main goal of this paper is to consider a general case. The frequency variant of extended Euler identities is found to be more tractable for this problem.

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