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QUADRATURE FORMULAS FOR RATIONAL FUNCTIONS*

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Abstract. Let ω be an L_1-integrable function on $[-1,1]$ and let us denote

$$I_\omega(f) = \int_{-1}^{1} f(x)\omega(x)dx,$$

where f is any bounded integrable function with respect to the weight function ω. We consider rational interpolatory quadrature formulas (RIQFs) where all the poles are preassigned and the interpolation is carried out along a table of points contained in $\overline{\mathbb{C}} \setminus [-1,1]$. The main purpose of this paper is the study of the convergence of the RIQFs to $I_\omega(f)$.

Key words. weight functions, interpolatory quadrature formulas, orthogonal polynomials, multipoint Padé–type approximants.

AMS subject classifications. 41A21, 42C05, 30E10.

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