

## GAUSSIAN DIRECT QUADRATURE METHODS FOR DOUBLE DELAY VOLTERRA INTEGRAL EQUATIONS\*

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**Abstract.** In this paper we consider Volterra integral equations with two constant delays. We construct Direct Quadrature methods based on Gaussian formulas, combined with a suitable interpolation technique. We study the convergence and the stability properties of the methods and we carry out some numerical experiments that confirm our theoretical results.

**Key words.** Volterra integral equations, Direct Quadrature method, Gaussian quadrature formulas, convergence, stability

**AMS subject classifications.** 65R20

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