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**Lewanowicz, Stanisław**

**Evaluation of Bessel function integrals with algebraic singularities.**

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The author derives a new method for the numerical evaluation of the integral  $\int_0^1 (1-x)^\alpha x^\beta f(x) J_\nu(ax) dx$ . Here  $\alpha$ ,  $\beta$ ,  $\nu$  and  $a$  are given constants;  $J_\nu$  is the Bessel function of the first kind and order  $\nu$ ;  $f$  is a sufficiently smooth function so that it can be expanded into a series of the shifted Jacobi polynomials. The proposed method is based on the series expansion for  $J_\nu(ax)$ .  
*A.Laforgia (Potenza)*

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