a function of bounded variation on $(0, \infty)$, for which the moment constants $b_n = \int_0^\infty t^n d\beta(t)$ exist, with $b_0 \neq 0$. (Received May 10, 1945.)

125. Otto Szász: *On the absolute convergence of trigonometric series.*

Generalizing a theorem of Fatou on trigonometric series with monotonically decreasing coefficients, the author proves the following theorem: If $\rho_n > 0$, $\rho_{n+1} \leqq c\rho_n$, c a constant, and if the trigonometric series $\sum \rho_n \cos nx$ is absolutely convergent at one point x_0, then $\sum \rho_n < \infty$. The same is true for the sine series if in addition $x_0 \not\equiv 0 \pmod{\pi}$. The proof is quite short and elementary. The author extends this result to series of the type $\sum \rho_n \cos \lambda_n x$, $\sum \rho_n \sin \lambda_n x$, where $0 < \lambda_1 < \lambda_2 < \cdots$. (Received May 10, 1945.)

126. W. J. Trjitzinsky: *Integral equations in problems of representation of functions of a complex variable.*

This work relates to the representation of functions of a complex variable, more general than analytic, in terms of "Cauchy double integrals." (Received May 16, 1945.)

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127. H. E. Salzer: *Formulas for direct and inverse interpolation of a complex function tabulated along equidistant circular arcs.*

When an analytic function $f(z)$ may be approximated by a complex polynomial of degree $n-1$ passing through the values of the function at n points, according to the Lagrange-Hermite interpolation formula, it often happens that those n points are situated along the arc of a circle (equally spaced) and it is required to obtain $f(z)$ for z off the circle but near the arguments. An important case is when $f(z)$ is tabulated in polar form (including tabulation along the vertices of any regular polygon). The formulas that were obtained will facilitate direct interpolation when $f(z)$ is known at three, four, or five points. They furnish the real and imaginary parts of $L_k^{(n)}(P)$, where $f(z) \sim \sum L_k^{(n)}(P) f(z_k)$, as functions of $P^m = p_m + iq_m$ and θ. Here $P = (z - z_0)/h$, h being the distance between successive points z_k, and θ denotes the angle between successive chords joining the points z_k. For extensive use for a fixed θ, one can readily obtain $L_k^{(n)}(P)$ in the form $\sum C_k^{(n)}(p_m + iq_m)$. A method for inverse interpolation is given, employing the coefficients of the polynomials $L_k^{(n)}(P)$ in an expansion derived in the author's *A new formula for inverse interpolation*, Bull. Amer. Math. Soc. vol. 50 (1944) pp. 513–516. (Received May 18, 1945.)

128. H. E. Salzer: *Table of coefficients for double quadrature without differences, for integrating second order differential equations.*

On the basis of a double quadrature of the Lagrange interpolation formula, a table of coefficients has been computed to determine a function at equally spaced points (to within an arbitrary $Ax+B$), when its second derivative is known at those points. The coefficients cover the cases where the second derivative may be approximated by a polynomial ranging from the second to tenth degrees (that is, from three-point through eleven-point formulas), and are given exactly. Their chief value will occur in the numerical solution of ordinary linear differential equations of the second order, which can always be reduced to the form $y'' + g(x)y = h(x)$. They can also be employed to integrate the more general equation $y'' + \phi(x, y) = 0$. In every case it is necessary to begin with a few values of y'' which can always be found by the usual methods.