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## Applications and Computation of Orthogonal Polynomials

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Book Condition: New. Publisher/Verlag: Springer, Basel | Conference at the Mathematical Research Institute Oberwolfach, Germany March 22-28, 1998 | This volume contains a collection of papers dealing with applications of orthogonal polynomials and methods for their computation, of interest to a wide audience of numerical analysts, engineers, and scientists. The applications address problems in applied mathematics as well as problems in engineering and the sciences. | The sensitivity of least squares polynomial approximation.- Transpose-free look-ahead algorithms for Lanczos' method.- Applications of anti-Gauss quadrature rules in linear algebra.- Stieltjes polynomials and the error of Gauss-Kronrod quadrature formulas.- Fast solution of confluent Vandermonde-like linear systems using polynomial arithmetic.- On discrete polynomial least-squares approximation in moving time windows.- Quadrature rules based on s-orthogonal polynomials for evaluating integrals with strong singularities.- Gegenbauer weight functions admitting L2 Duffin and Schaeffer type inequalities.- Questions related to Gaussian quadrature formulas and two-term recursions.- Construction and computation of a new set of orthogonal polynomials.- Fourier transforms of orthogonal polynomials of singular continuous spectral measures.- On a sequence of fast decreasing polynomial operators.- Müntz orthogonal polynomials and their numerical evaluation.- Positivity of Gauss-Kronrod formulae for a certain ultraspherical weight function.- A Christoffel-Darboux-type formula for Szegö polynomials and polynomial evaluation....

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