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Recent Trends on Orthogonal Polynomials: Approximation Theory and Applications

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Message from the Guest Editors

Dear Colleagues,

Orthogonal polynomials are essential tools for the solution of many problems in the spectral theory of differential and difference equations, Painlevé equations (discrete and continuous versions), numerical methods in quadrature on the real line and the unit circle, as well as cubature formulas on multidimensional domains, with applications ranging from Number Theory to Approximation Theory, Combinatorics to Group representation, integrable systems, random matrices, and linear system theory to signal processing.

The aims of the proposed Special Issue are:

1. To show some recent trends in the research on orthogonal polynomials, with a special emphasis on their analytic properties and approximation theory;
2. To emphasize their impact in Mathematical Physics, mainly in integrable systems and Painlevé equations (discrete and continuous cases), as they are strongly related to the coefficients of three term relation, satisfied by a sequence of orthogonal polynomials and time-depending measures supported on the real line.

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Message from the Editor-in-Chief

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