



# Aspects of the Painlevé equations

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The Painlevé equations were introduced by Paul Painlevé and his colleagues about a hundred years ago. They can be thought of as nonlinear analogues of the classical special functions. Their general solutions are transcendental, i.e. they cannot be expressed in terms of previously known functions, such as rational functions or the special functions. These equations appear in many important physical applications, including nonlinear waves, nonlinear optics, statistical mechanics, plasma physics, quantum field theory and general relativity.

In the talk I shall speak about Bäcklund transformations of the Painlevé equations, meromorphic solutions and relation to orthogonal polynomials.

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