



Mathematical Physics

# Quantum Painleve-Calogero Correspondence

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The Painleve-Calogero correspondence is extended to auxiliary linear problems associated with Painleve equations. The linear problems are represented in a new form which has a suggestive interpretation as a "quantized" version of the Painleve-Calogero correspondence. Namely, the linear problem responsible for the time evolution is brought into the form of non-stationary Schrodinger equation in imaginary time,  $\partial_t \psi = (1/2 \partial_x^2 + V(x,t)) \psi$ , whose Hamiltonian is a natural quantization of the classical Calogero-like Hamiltonian  $H = 1/2 p^2 + V(x,t)$  for the corresponding Painleve equation.

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