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*Two-dimensional superintegrable quantum systems with potentials expressed in terms of Painlevé transcendents*

We consider quantum superintegrable Hamiltonians that admit separation of variables in Cartesian coordinates and allow the existence of a fourth-order integral of motion in the two-dimensional Euclidean space. The most interesting ones involve potentials expressed in terms of Painlevé transcendents. We show how the results are related to the third-order superintegrable systems.