



## SPECTRAL PROPERTIES OF A Q-STURM-LIOUVILLE OPERATOR

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In the talk I will study the spectral properties of a class of Sturm-Liouville-type operators on the real line where the derivatives are replaced by a  $q$ -difference operator which has been introduced in the context of orthogonal polynomials. Using the relation of this operator to a direct integral of doubly-infinite Jacobi matrices, one can construct examples for isolated pure point, dense pure point, purely absolutely continuous and purely singular continuous spectrum. I will show that the last two spectral types are generic for analytic coefficients and for a class of positive, uniformly continuous coefficients, respectively. A key ingredient in the proof is the so-called Wonderland theorem.

The talk is based on joint work with Malcolm Brown and Karl Michael Schmidt.