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Common Eigenvalue problem and periodic Schrödinger operator

Abstract: Let $\mathcal{A}$ be a subset of the family of all self – adjoint extensions of a symmetric operator A_0 with equal deficiency indices in a Hilbert space. Assuming that A_0 has a purely residual spectrum we describe the set of eigenvalues common to all self – adjoint extensions from $\mathcal{A}$. This abstract result is used to show that the one – dimensional periodic Schrödinger operator with local point interactions is absolutely continuous.