Schrödinger operators and de Branges spaces

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Abstract. A completely non self-adjoint symmetric operator with deficiency indices $(1, 1)$ can be represented as the operator of multiplication by the independent variable in a de Branges space, that is, a Hilbert space of entire functions having certain distinctive structural properties. From this functional model, one can obtain precise spectral information of the self-adjoint extensions of the given operator, when the associated de Branges space satisfies certain additional property.

In this talk I will present some aspects of this method applied to perturbed spherical Schrödinger operators.