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Biagio Cassano: General δ-shell interactions for the two-dimensional Dirac operator.

mercredi 6 juillet 2022 15:30 (1 heure)

In this talk we will consider the two-dimensional Dirac operator with general local singular interactions supported on a closed curve. A systematic study of the interaction is performed by decomposing it into a linear combination of four elementary interactions: electrostatic, Lorentz scalar, magnetic, and a fourth one which can be absorbed by using unitary transformations. We address the self-adjointness and the spectral description of the underlying Dirac operator, and moreover we describe its approximation by Dirac operators with regular potentials. This is a joint work with V. Lotoreichik, A. Mas and M.Tušek.