FACULTY OF NUCLEAR SCIENCES AND PHYSICAL ENGINEERING CTU IN PRAGUE

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CENTRE OF ADVANCED APPLIED SCIENCES

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Hearing the shape of a quantum boundary condition

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We study the isospectrality problem for a free quantum particle confined in a ring with a junction. By characterizing the energy spectrum in terms of a spectral function, we classify all the possible self-adjoint realizations. The latter turn out to be divided in two classes, which are discerned by the action of parity.

Main reference: G. Angelone, P. Facchi and G. Marmo, *Hearing the shape of a quantum boundary condition*, arXiv: 204.10248 [quant-ph] (2022), https://arxiv.org/abs/2204.10248.

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