



## Seminar/Talk

# An inverse spectral problem for non-self-adjoint Jacobi and Schrödinger operators on the half-line

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Host: Robert Seiringer / Borbala Gerhat

We introduce a new theoretical concept for a spectral data defined for two classes of non-self-adjoint operators: Jacobi matrices with complex entries and Schrödinger operators with complex-valued potentials on the half-line. Then we discuss properties of corresponding spectral maps which assign the spectral data to a given operator from the considered class. In case of Jacobi operators, we show that the spectral map is bijective in a complete analogy to the classical result on the spectral map which assigns the spectral measure to a self-adjoint Jacobi operator. In case of Schrödinger operators, we show that the spectral map is injective, i.e. we have a Borg-Marchenko type theorem for the respective inverse spectral problem. If time allows, we also present partial results on the image of the spectral map concerning asymptotic properties of the spectral data. The talk is based on a joint work with A. Pushnitski (King's College London); the part on Jacobi operators has been recently published in [1], the part on Schrödinger operators is a work in progress.[1] A. Pushnitski, F. Štampach, An inverse spectral problem for non-self-adjoint Jacobi matrices, Int. Math. Res. Not. 2024 (2024) 6106-6139.

**Thursday, February 6, 2025 04:00pm - 05:30pm**

Office Bldg West / Ground floor / Heinzl Seminar Room (I21.EG.101)



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