



ЮЖНЫЙ ФЕДЕРАЛЬНЫЙ УНИВЕРСИТЕТ
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SOUTHERN FEDERAL UNIVERSITY
Regional Mathematical Center
<https://rmc.sfedu.ru/>, Rostov-on-Don, Russia

International scientific online seminar on Analysis, Differential Equations and Mathematical Physics

Coordinators: Prof. Alexey Karapetyants, Prof. Vladislav Kravchenko

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09 December 2021, 6 pm (UTC+3)

Inverse scattering for the half line matrix Schrödinger operator

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The matrix Schrödinger equation is considered on the half line with the general selfadjoint boundary condition and with a matrix-valued potential which is integrable, selfadjoint, and having a finite first moment. The relevant direct and inverse problems are described. The construction of the scattering data set is given, and such scattering data sets are characterized by providing a set of necessary and sufficient conditions assuring the existence and uniqueness of the one-to-one correspondence between the scattering data set and the input data set consisting of the potential and the boundary condition. This characterization yields a generalization of the classical result by Agranovich and Marchenko from the Dirichlet boundary condition to the general selfadjoint boundary condition.

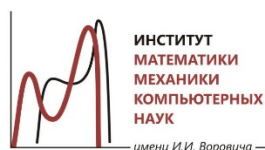
The presentation is based on the joint work with Ricardo Weder of the National Autonomous University of Mexico.

*Seminar website: <https://msrn.sfedu.ru/sl>. The seminar uses Microsoft Teams online platform. Please send questions to pichugina@sfedu.ru (Olga Pichugina, scientific secretary).

The seminar is organized by the Regional Mathematical Center of the Southern Federal University in collaboration with Institute of Mathematics, Mechanics and Computer Sciences of the Southern Federal University and the special Interest ISAAC-OTHA group in Operator Theory and Harmonic Analysis.

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