



ЮЖНЫЙ ФЕДЕРАЛЬНЫЙ УНИВЕРСИТЕТ
Региональный математический центр
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

[JOIN THE SEMINAR](#)

13 May 2021, 6 pm (GMT+3)

Nonlinear Fourier Analysis

Maxim Zinchenko, University of New Mexico, USA
maxim@math.unm.edu

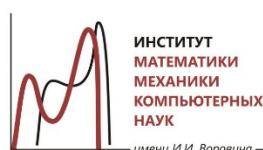
In this talk, I will give an overview of spectral theory as a nonlinear analog of Fourier analysis. As an illustration, I will discuss a system of exponentially interacting particles known as the Toda lattice whose solution is based on the spectral theory of Jacobi matrices. I will discuss some classical and more recent results in spectral theory of Jacobi matrices and, in particular, present nonlinear analogs of Riemann-Lebesgue lemma, Parseval's identity, and Paley-Wiener theorem.

*Seminar website: <https://rmc.sfedu.ru/seminar>. 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.

Региональный научно-образовательный математический центр
Южный Федеральный Университет
Ростов-на-Дону

Regional Mathematical Center
<https://rmc.sfedu.ru/>



Institute of Mathematics, Mechanics
and Computer Sciences
<http://www.mmcs.sfedu.ru/>



Special Interest ISAAC-OTHA group in
Operator Theory and Harmonic Analysis
<http://otha.sfedu.ru/isaac/>