FEZA GÜRSEY
CENTER FOR
PHYSICS AND
MATHEMATICS

Dual Perspectives Meetings

Geometric Construction of Integrable Models

Gleb Arutyunov
II. Institute for Theoretical Physics, Hamburg University

Abstract:
In the first lecture I will present the geometric construction of a wide class of integrable many-body systems by using the Hamiltonian and Poisson reduction techniques. I will demonstrate that in some cases the corresponding reduction scheme pertains to quantisation where it shows up as a special factorisation problem in quantum algebras.

In the second lecture I will discuss an advanced application of the reduction technique to the construction of the hyperbolic Ruijsenaars-Schneider model with spin. I will show that the model enjoys the Poisson-Lie symmetry which explains its superintegrability. For the quantum model without spin I will present the L-operator algebra and integrals of motion in the formalism of the quantum inverse scattering method.

Date:
Friday, April 28, 2023

Program:
Morning session 10:30-12:00, Afternoon session 13:30-15:00

Location:
Boğaziçi University, Kandilli Campus, Üsküdar-İstanbul