XV Conference of Young Scientists "Problems of Theoretical Physics"

Contribution ID: 8

Type: Oral talk

## Integrable spinning fluid

Wednesday, 11 June 2025 15:20 (20 minutes)

The one-dimensional Calogero-Moser model is a well-established integrable model describing N interacting particles in both classical and quantum frameworks. In their seminal paper, Abanov, Bettelheim, and Wiegmann demonstrated that a collective description of this model gives rise to integrable hydrodynamics similar to the Benjamin-Ono system.

These interacting particle systems can also be extended to include integrable spin generalizations, where internal degrees of freedom are assigned to each particle. In our paper we discuss the hydrodynamic formulation of the spin Calogero-Moser system, which emerges as an integrable spinning fluid system, and elucidate its connection to the matrix Benjamin-Ono equation recently introduceed.

Primary author:LIASHYK, Andrii (BIMSA)Presenter:LIASHYK, Andrii (BIMSA)Session Classification:Mathematical Physics

Track Classification: Mathematical Physics