

# Coupled semidiscrete solitonic equations of the first multiplicative Bogoyavlensky and its soliton solutions

*Wednesday 9 July 2025 15:30 (20 minutes)*

A coupled extension of the first multiplicative Bogoyavlensky equation is analyzed using the Hirota bilinear formalism. Considering an appropriate substitution, we first construct the Hirota bilinear form. Once we coupled semidiscrete system is written in terms of the Hirota operator, we construct the 3-soliton solutions. The existence of the multi-soliton solutions, obtained via generalization, proves the complete integrability of the analyzed system.

**Primary author:** BABALIC, CORINA NICOLETA (University din Craiova)

**Presenter:** BABALIC, CORINA NICOLETA (University din Craiova)

**Session Classification:** Plasma, Statistical and Nonlinear Physics

**Track Classification:** S08 –Plasma, Statistical and Nonlinear Physics