CIDMA CENTRO DE I&D EM MATEMÁTICA E APLICAÇÕES
CENTER FOR R&D IN MATHEMATICS AND APPLICATIONS

universidade de aveiro

Gravitational Geometry and Dynamics Group Seminar

Wed., October 8, 2025, at 11h00.

Room: Sala Sousa Pinto and **Teams ID:** 361 375 804 943 4

(*Password: contact jnicoules@ua.pt*)

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Universidade Federal de Catalão

Quasi-integrability in classical field theories

We present a general inverse scattering formalism for systems with quasi-zero curvature representations, extending the tools of integrable models to the quasi-integrable setting. Motivated by evidence that deformations of integrable equations can preserve soliton-like behavior and asymptotic conservation laws, our framework establishes quasi-conserved charges for a broad class of equations, including AKNS and WKI as subsystems. Relying on scattering states, it captures dynamics where curvature vanishes only asymptotically and identifies mechanisms that obstruct conservation laws. The method may guide the identification of new integrable structures and open new directions for understanding nonlinear dynamics in the context of gravity.

More about Gr@v at: gravitation.web.ua.pt

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