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A Talk at the 2nd ISNMP Conference

Bad Ems, 28 June to 4 July 2026

Regular Session:

Speaker: Norbert Euler (ISNMP, Bad Ems, Germany & CIC AC, Cuernavaca, Mexico)

Collaborator: Marianna Euler

Title: *On Sequences of fully-nonlinear and quasilinear evolution equations*

Abstract: We identify some sequences of evolution equations based on their Lie-Bäcklund symmetry and Lie point symmetry properties. In particular we discuss the odd-order fully-nonlinear sequence of evolution equations

$$u_t = \left(u_{(2k+3)x}\right)^{-\frac{k+1}{k+2}} \quad k = 0, 1, 2, 3, \dots$$

which was proposed in our paper [1]. Furthermore we introduce some new sequences of quasilinear evolution equations and discuss several open problems related to such type of sequences.

Reference:

- [1] M. Euler and N. Euler, Two sequences of fully-nonlinear evolution equations and their symmetry properties, *Communications in Nonlinear Mathematical Physics*, onmp:16486, vol. 5, 2025. <https://doi.org/10.46298/onmp.16486>