Institut für Physik

Theoriekolloquium

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Am **10. Januar 2019** um **14.15 Uhr** in **W2 1-143** hält

Herr Prof. Dr. Jakov Shnir (Minsk)

einen Vortrag mit dem Titel

Topological Solitons

Solitons emerge in various non-linear systems as stable localized configurations behaving in many ways like particles, from non-linear optics and condensed matter to nuclear physics to cosmology and supersymmetric theories. Recently, there has been a remarkable progress towards understanding of underlying geometrical properties of the solitons, which opens a new possibilities in constructions of these field configurations.

We discuss dynamical properties of topological solitons in simple models in one spacial dimension, in particular we consider chaotic dynamics of the kinks and oscillons. Considering constriction of the soliton solutions in higher dimensional theories, we discuss the rational maps approach and its applications to the non-linear $O(3)$ sigma model, theory of chiral magnetic Skyrmions and effective theory of atomic nuclei. Finally, we present new results, related with construction of knotted solitons in the Faddeev-Skyrme theory.

Interessierte sind herzlich eingeladen.

gez. Prof. Dr. Jutta Kunz