1.02.2021

Monday's Nonstandard Seminar 18

14:00 or 15:00

Author: Miroslav Bulíček (Charles University)

Title: **On the existence of integrable solutions to elliptic and parabolic systems with linear growth - applications in (visco)-elasticity theory**

Abstract: We investigate the properties of certain elliptic and parabolic systems leading, a priori, to solutions that belong to the space of Radon measures. We show that if the problem is equipped with a so-called radial structure, then the solution can in fact be understood as a standard weak solution. The result is based on a proper renormalization and certain quasi-regularity estimates that allows one to show that the singular part of the solution can be avoided. Moreover, this technique can be used in the elasticity and viscoelasticity theory for the so-called limiting strain and in general is applicable for problems being regularized versions of 1 or ∞ - Laplacians.

This is a joint work with L. Beck, F. Gmeineder, J. Málek, V. Patel and E. Süli