FAKULTA ELEKTROTECHNIKY A KOMUNIKAČNÍCH TECHNOLOGIÍ ústav matematiky

Srdečně zveme všechny zájemce na přednášku

On nonlinear coercive problems,

kterou přednese

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Místo konání: Ústav matematiky FEKT, T6.16, 6. patro, Technická 8

Abstract. We are concerned with problems that involve nonlinear potential mappings satisfying condition (S) and whose potentials are coercive. We first provide mild sufficient conditions for the minimizing sequence in the Weierstrass-Tonelli theorem in order to have strongly convergent subsequences. This improves the well known fact stating that minimizing sequences for coercive and sequentially weakly continuous functional are weakly convergent, with same assumptions in concrete applications. Next, we establish a three critical point theorem which is based on the Pucci-Serrin type mountain pass lemma and which is an infinite dimensional counterpart of the Courant theorem. Some applications to Dirichlet boundary value problems driven by the perturbed Laplacian are given. The talk is based on the recent paper: J. Diblík; M. GalewskI; V.D. Rădulescu; Z. Šmarda; Multiplicity of solutions for nonlinear coercive problems. *J Math. Anal. Appl.* 528 (2023), no. 1, Paper No. 127473.

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