ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

INVITATION TO A TALK

Existence and duality theory for linear-growth variational problems with measures

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Chaired by Barbara Kaltenbacher | Department of Mathematics

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ABSTRACT

In this talk we consider functionals with linear growth in the gradient variable, along with an integral term with respect to a (possibly signed) Radon measure on bounded subsets of $\mathbb{R}^n$. Relying on a generalized parametric lower-semicontinuity result, we provide necessary and sufficient conditions for the existence of BV-minimizers, and discuss typical examples as well as limit cases. Moreover, we link functional minima to divergence-measure vector fields employing a refined version of the Anzellotti pairing between measures and functions. Further advantages of the dual approach include the introduction of a formal definition of solutions to the Euler-Lagrange equation corresponding to the original functional.

The topics presented are result of joint work with Thomas Schmidt (Universität Hamburg).

We hope to see you there!

