Nonsmooth and nonconvex optimization

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Short Description

Nonsmooth and nonconvex minimization problems arise in a large range of application areas including material science, mechanics, geodynamics, machine learning, and many more. Although there is a rich landscape of established methods including nonsmooth Newton, active set, bundle, and interior point methods, this is an area of active research. Especially large scale problems can still be regarded as challenging. Recent research targets e.g. the development of highly efficient methods for special classes of partial differential equations and for problems in machine learning where nonsmoothness can arise from the architecture or neural networks or nonsmooth regularization terms. The minisymposium is intended to bring together experts on from a broad range of areas including optimization, PDE numerics, and mathematics of machine learning.