


A variational principle for gradient flows of nonconvex energies

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Abstract	We present a variational approach to gradient flows of energies of the form $E = \vartheta_1 - \vartheta_2$ where $\vartheta_1 - \vartheta_2$ are convex functionals on a Hilbert space. A global parameter-dependent functional over trajectories is proved to admit minimizers. These minimizers converge up to subsequences to gradient-flow trajectories as the parameter tends to zero. These results apply in particular to the case of non λ -convex energies E . The application of the abstract theory to classes of nonlinear parabolic equations with nonmonotone nonlinearities is presented.
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