A quasistatic evolution model for perfectly plastic plates derived by Γ -convergence

Elisa Davoli and Maria Giovanna Mora

We consider an evolutionary dimension reduction problem for a thin plate whose elastic behaviour is linear and isotropic and whose plastic behaviour is governed by the Prandt-Reuss flow rule without hardening (perfect plasticity). A lower dimensional model is deduced by Γ -convergence. A convergence result for a sequence of 3D quasistatic evolutions to a reduced quasistatic evolution for the limit model is established.

References

[1] E. Davoli, M.G. Mora: A quasistatic evolution model for perfectly plastic plates derived by Gamma-convergence, in preparation.