

# NON-PERIODIC HOMOGENIZATION OF PLASTICITY EQUATIONS

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## **Abstract**

We consider the Prandtl-Reuss model of infinitesimal strain plasticity in the quasistatic regime. Assuming kinematic hardening, we analyze the homogenization of the system in the case that coefficient functions (including the convex function that describes the flow rule) are heterogeneous with a small parameter  $\varepsilon$ . We are interested in an effective law that describes limits of solutions as  $\varepsilon \rightarrow 0$ . We obtain the effective system under an "averaging assumption" on the heterogeneous medium using the needle-problem approach to homogenization.