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Marian Bocea* (mbocea@luc.edu), Department of Mathematics and Statistics, Loyola University Chicago, 1032 W. Sheridan Road, Chicago, IL 60660. *On the Characterization of the Effective Yield Set in Polycrystal Plasticity.*

I will discuss a general strategy for predicting the macroscopic response of a polycrystalline material, with an emphasis on several model cases. The new approach allows us to characterize the effective yield set of the polycrystal by means of variational principles in L^∞ for supremal functionals acting on fields subject to constant rank differential constraints. (Received September 21, 2011)