Marian Bocea* (bocea@math.utah.edu), University of Utah, Department of Mathematics, 155 South 1400 East, JWB Room 233, Salt Lake City, UT 84112. Partial differential equations related to dielectric breakdown and polycrystal plasticity.

We discuss several examples of highly nonlinear partial differential equations and systems of PDEs which arise naturally in a Γ-convergence analysis for a general class of power law functionals in the context of dielectric breakdown and polycrystal plasticity. (Received August 03, 2005)