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Constantine M. Dafermos* (dafermos@dam.brown.edu), Division of Applied Mathematics,
Brown University, Providence, RI 02912. *Hyperbolic Conservation Laws with Involutions and
Contingent Entropies.*

The equations of elastodynamics and the Born-Infeld version of Maxwell's equations are examples of hyperbolic systems of conservation laws in which the principal entropy fails to be convex. It will be shown that this is compensated by the presence of "involutions" and supplementary "contingent entropies", so that the Cauchy problem is locally well-posed for classical solutions, which in turn are unique and stable within the broader class of admissible weak solutions. (Received August 16, 2007)