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Marian Bocea* (mbocea@luc.edu), Department of Mathematics and Statistics, Loyola University Chicago, 1032 W. Sheridan Road, Chicago, IL 60660. *A Caffarelli-Kohn-Nirenberg inequality in Orlicz-Sobolev spaces and applications.*

A generalization of the classical Caffarelli-Kohn-Nirenberg inequality is obtained in the setting of Orlicz-Sobolev spaces. As applications, we prove a compact embedding result, and establish existence of solutions for a degenerate/singular elliptic PDE. Joint work with Mihai Mihailescu (University of Craiova, Romania). (Received August 30, 2011)