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Emanuele Macri* (emanuele.macri@gmail.com), Department of Mathematics, The Ohio State University, 231 West 18th Avenue, Columbus, OH 43210. *Bogomolov-type inequalities in higher dimension.*

We will report on a joint work with A. Bayer, A. Bertram, and Y. Toda on a conjectural approach to the construction of Bridgeland stability conditions on the derived category of a higher dimensional variety. The main ingredient is a generalization to complexes of the classical Bogomolov-Gieseker inequality for sheaves. We will also discuss an application to the Fujita Conjecture for threefolds. (Received August 17, 2011)