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**Cristian Martinez\*** ([martinez@math.ucsb.edu](mailto:martinez@math.ucsb.edu)), Department of Mathematics, South Hall Room 6607, University of California, Santa Barbara, CA 93106, and **Benjamin Schmidt** ([schmidt@math.utexas.edu](mailto:schmidt@math.utexas.edu)), Department of Mathematics, The University of Texas at Austin, 2515 Speedway, Austin, TX 78712. *Stability conditions on blow-ups and counterexamples.*

Stability conditions have become an essential tool in the study of the birational geometry of moduli spaces of Gieseker semistable sheaves. However, the conjectural construction of stability conditions on threefolds depends on a generalization of the Bogomolov-Gieseker inequality, which fails in general. In this talk I will present a new class of counterexamples for the generalized Bogomolov-Gieseker inequality including blow-ups at points and some elliptic fibrations. I will also show how to modify the inequality in the case of blow-ups. (Received February 02, 2018)