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Ruadháí Dervan* (r.dervan@dpms.cam.ac.uk). *Analytic stability conditions for polarised varieties.*

A conjectural correspondence due to Yau, Tian and Donaldson relates the existence of certain canonical Kähler metrics (“constant scalar curvature Kähler metrics”) to an algebro-geometric notion of stability (“K-stability”). This talk has two aims: firstly to provide a more general context to which this conjecture applies (“ Z -critical Kähler metrics” and “ Z -stability”), and secondly to explain how this more general framework provides a good analogue of Bridgeland stability for polarised varieties. The main result will prove that a special case of the main conjecture: the existence of Z -critical Kähler metrics is equivalent to Z -stability. (Received March 05, 2021)