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Counterexamples to Okounkov's log-concavity conjecture.

Motivated by physical considerations, Okounkov conjectured that the Littlewood-Richardson coefficients are log-concave as a function of their highest weights. The conjecture, if true, would immediately imply Knutson-Tao saturation theorem, a conjecture of Fulton proved by Belkale, and the log-concavity theorem for skew-Schur functions proved by Lam-Postnikov-Pylyavskyy. Using quiver representations, I will expalin why Okounkov's conjecture for Littlewood-Richardson coefficients is bound to fail and present explicit counterexamples. This is based on joint work with Harm Derksen and Jerzy Weyman. (Received February 08, 2007)