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Justin Allman* (allman@usna.edu). *Generalization of combinatorial partition identities via topology and geometry.*

The Durfee square identity (and generalizations) gives an effective way, going back to at least Cauchy, to count the number of partitions of an integer. When encoded in terms of generating functions, this identity has remarkable connections to the equivariant geometry of degeneracy loci by counting Betti numbers for group orbits in quiver representation spaces. We will describe this connection and further generalizations to the theory of Donaldson-Thomas invariants and quantum dilogarithm series. (Received August 20, 2018)