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Greg Kuperberg* (greg@math.ucdavis.edu). *Denseness and Zariski denseness of Jones braid representations.*

The question of computing the closed image of braid and mapping class group representations that come from quantum invariants has attracted interest lately from quantum computation. A dense generation result can imply that an invariant is very hard to approximate to a precision useful for topology; but also that a certain coarser approximation is universal for quantum computation.

We will discuss the Zariski closure of Jones representations of braid groups and colored Jones representations. Zariski denseness is a weaker result than analytic denseness, but in some cases it is not much weaker, while in others it is ultimately equivalent. If time permits, we will also discuss the connections to theoretical computer science. (Received September 14, 2009)