

1154-14-146

**Ben Wormleighton\*** ([b.wormleighton@berkeley.edu](mailto:b.wormleighton@berkeley.edu)), 970 Evans Hall, Department of Mathematics, Berkeley, CA 94720. *Walls for  $G$ -Hilb via Reid's recipe.*

The three-dimensional McKay correspondence seeks to relate the geometry of crepant resolutions of Gorenstein 3-fold quotient singularities  $\mathbb{C}^3/G$  with the representation theory of the group  $G$ . The first crepant resolution to be studied in depth was the  $G$ -Hilbert scheme  $G$ -Hilb, which is also a moduli space of stable representations of the McKay quiver associated to  $G$ . As the stability parameter varies, we obtain many other crepant resolutions. We focus on the case where  $G$  is abelian, and compute explicit inequalities defining the chamber of the stability space for  $G$ -Hilb in terms of a marking of exceptional subvarieties of  $G$ -Hilb called Reid's recipe. We further show which of these inequalities define walls and describe their wall-crossing behaviour using results of Craw-Ishii. (Received August 15, 2019)