

Meeting: 1007, Santa Barbara, California, SS 5A, Special Session on Noncommutative Geometry and Algebra

1007-18-103 **Vladimir Baranovsky*** (vbaranov@math.uci.edu), 103 MSTB, UC Irvine, Irvine, CA 92697,
and **Tihomir Petrov**. *Brauer groups and resolutions of V/G (joint work with T. Petrov)*. Preliminary report.

Recently there has been a lot of results about McKay correspondence. The most general version identifies the (derived) categories of G -equivariant vector bundles on a vector space V (where G acts linearly); and usual vector bundles on a crepant resolution X of singularities of V/G . One way to deform the first object is to twist G -equivariant bundles by a projective 2-cocycle in $H^2(G, C^*)$; while the second category may be deformed by a class in the Brauer group $H^2(X, O^*)$ (via modules over Azumaya algebras). We show that the above Brauer group may be identified with a certain subgroup of $H^2(G, C^*)$ and present some results and conjectures related to this identification. (Received February 10, 2005)