

Meeting: 1004, Bowling Green, Kentucky, SS 14A, Special Session on Geometric Topology and Group Theory

1004-19-27 **Vasiliy A. Dolgushev*** (vald@mit.edu), 77 Massachusetts Ave. Office 2-092, Department of Mathematics, MIT, Cambridge, MA 02139. *A simple algebraic proof of the algebraic index theorem.*

In math.QA/0311303 B. Feigin, G. Felder, and B. Shoikhet proposed an explicit formula for the trace density map from the quantum algebra of functions on an arbitrary symplectic manifold M to the top degree cohomology of M . They also evaluated this map on the trivial element of K-theory of the algebra of quantum functions. In my talk I will explain how to evaluate this map on an arbitrary element of K-theory, and, thus, get a local version of the Fedosov-Nest-Tsygan algebraic index theorem. This result is contained in my joint paper math.QA/0408210 with PoNing Chen. (Received December 29, 2004)