

1086-53-1496

**D Sean Fitzpatrick\*** ([sean@math.berkeley.edu](mailto:sean@math.berkeley.edu)), 749 Evans Hall #3840, Department of Mathematics, University of California, Berkeley, Berkeley, CA 94704. *Dirac-like operators on subbundles and Toeplitz structures on contact manifolds*. Preliminary report.

This will be a discussion of some current work in progress related to geometric quantization in the setting of contact geometry. In the appendix to their book “The Spectral Theory of Toeplitz Operators”, Boutet de Monvel and Guillemin describe what they call “contact quantization”: a proof that any (coorientable) contact manifold admits a Toeplitz structure. On the other hand, one can approach contact quantization from the point of view of index theory for  $\text{Spin}^c$  Dirac operators, getting around the fact that a contact manifold is odd-dimensional by constructing an operator that is only transversally elliptic, in the case of a smooth Lie group action whose orbits are transverse to the contact distribution. I will discuss what these approaches have in common, and some questions I have about the relationship between them. (Received September 22, 2012)