

1086-58-2850

**Igor Prokhorenkov\*** (i.prokhorenkov@tcu.edu) and **Ken Richardson**  
(k.richardson@tcu.edu). *Transversal Witten deformations on Riemannian foliations.*

We describe how to compute an index of a transversal Dirac operator  $D_{tr}$  by perturbing the operator with a geometric bundle map  $Z$  and considering the semiclassical limit of  $D_{tr} + sZ$  as  $s \rightarrow \infty$ . In a special case of a Riemannian foliation, the answer is expressed in terms of local data at singular leaf closures of  $Z$ . (Received September 25, 2012)