1015-58-214   **Igor P Prokhorenkov*** (`i.prokhorenkov@tcu.edu`), TCU Box 298900, Fort Worth, TX 76129.
Witten approach to Morse inequalities on manifolds with boundary and generalizations. Preliminary report.

We will start by explaining recent work of B. Helffer and F. Nier on Witten deformation for manifolds with boundary. We will show how their methods could be generalized to obtain semiclassical asymptotics of the eigenvalues of the Witten Laplacian. The main novelty is that the model operator on a manifold with boundary can have both discrete and continuous spectrum. (Received February 06, 2006)