

**Meeting:** 1005, Newark, Delaware, SS 12A, Special Session on Geometric Analysis

1005-53-15            **Jian Song\*** (jsong@math.jhu.edu), 3700 N. Charles St. Apt 203, Baltimore, MD 21218. *The Szegő kernel of an orbifold circle bundle.*

The analysis of holomorphic sections of high powers  $L^N$  of holomorphic ample line bundles  $L \rightarrow M$  over compact Kähler manifolds has been widely applied in complex geometry and mathematical physics. The Tian-Yau-Zelditch's asymptotic expansion of the Szegő kernel of a circle bundle plays an important role in Kähler-Einstein geometry. We generalize the expansion for compact Kähler orbifolds with only finite isolated singularities and analyze the behavior of the expansion near the singularities. (Received January 29, 2005)