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

The analysis of holomorphic sections of high powers L^N of holomorphic ample line bundles $L \to M$ over compact Kähler manifolds has been widely applied in complex geometry and mathematical physics. The Tian-Yau-Zelditch's asymptotic expansion of the Szegö 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)