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**Chao Li\*** ([chaoli@math.toronto.edu](mailto:chaoli@math.toronto.edu)), 40 S.t. George Street, Room 6290, Toronto, Ontario M5S 2E4, Canada. *Some Twisted Orthogonality Relations*. Preliminary report.

It is well-known that there are Schur's orthogonality relations for characters of compact groups. For non-compact groups, Harish-Chandra defined the characters of infinite dimensional representations via the language of distributions. And he conjectured that there should be a vanishing property for elliptic characters of a connected reductive group and it was proved by Kazhdan. In the beginning of 1990's, Arthur proved some more general and explicit orthogonality relations for elliptic characters of a connected reductive group. In this talk I will introduce some twisted orthogonality relations for non-connected reductive groups. These results should have applications in the classifications of representations of classical groups via twisted endoscopic theory of  $GL(N)$ . (Received July 30, 2008)