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**Dmitry Korotkin\*** ([korotkin@CRM.UMontreal.CA](mailto:korotkin@CRM.UMontreal.CA)). *Determinants of laplacians over Riemann surfaces in flat metrics with conical singularities.*

Our goal is to generalize the Ray-Singer formula for determinant of Laplacian in flat metric over elliptic Riemann surface to the case of flat metrics with conical singularities over higher genus Riemann surfaces. The metrics we consider are given by modulus of quadratic differentials. Our analysis is based on analogs of Rauch variational formulas on the spaces of holomorphic abelian and quadratic differentials over Riemann surfaces. (Received February 14, 2006)