



Theoretical Statistics and Mathematics Unit, Kolkata INDIAN STATISTICAL INSTITUTE

SEMINAR

Date: August 21, 2025
Time: 04:00 PM

VENUE:

L-2

(4th Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

TITLE:

Subconvexity for Rankin Selberg L functions at special points

SPEAKER:

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ABSTRACT:

Let f and g be normalized Hecke-Maass cusp forms for the full modular group having spectral parameters t_f and t_g respectively with $t_f, t_g \asymp T \rightarrow \infty$. In this paper we show that the Rankin Selberg L -function associated to the pair (f, g) at the special points $t = \pm(t_f + t_g)$, satisfies the subconvex bound

$$L\left(\frac{1}{2} + it, f \otimes g\right) \ll_{\varepsilon} T^{61/84+\varepsilon}.$$

Additionally at the points $t = \pm(t_f - t_g) \asymp T^{\nu}$ with $2/3 + \varepsilon < \nu \leq 1$ we show the subconvex bound

$$L(1/2 + it, f \otimes g) \ll_{\varepsilon} T^{7/12+\nu/8+\varepsilon}, \text{ if } 2/3 + \varepsilon < \nu \leq 14/17,$$

and

$$L(1/2 + it, f \otimes g) \ll_{\varepsilon} T^{1/2+19\nu/84+\varepsilon}, \text{ if } 14/17 \leq \nu \leq 1.$$

This settles the subconvexity problem in the spectral aspect of Rankin Selberg L -functions when the parameters of both the forms vary under the additional challenge of conductor dropping occurring due to the special points in question.

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