

# NON-VANISHING OF RANKIN-SELBERG L-FUNCTIONS INSIDE THE CRITICAL STRIP

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ABSTRACT. It was shown by Kohnen that, in a certain sense, the Generalized Riemann Hypothesis holds on average for  $L$ -functions attached to level 1 holomorphic cuspforms. This result was later generalized by Raghuram to  $L$ -functions attached to cuspforms of arbitrary level. A similar result was shown for symmetric-square  $L$ -functions by Li and, using different methods, by Kohnen and Sengupta. By studying certain kernels attached to two cuspforms of different weights, we obtain similar results for Rankin-Selberg convolution  $L$ -functions. We also investigate consequences of these results.