1046-65-896   **Guohui Song*** (`gusong@syr.edu`), 215 Carnegie Building, Syracuse University, Syracuse, NY 13244. *Optimal Kernel via an Estimate to the Eigenvalues of Kernel Matrices.*

We study the problem of learning a real-valued function from Reproducing Kernel Hilbert Spaces by regularization. We establish a criterion for selecting the optimal kernel from a set of translation-invariant kernels. We show that, for equi-distant sample points, it leads to an optimization problem over an integral, which will reduce the computation complexity. Similar results can be extended to non equi-distant sample points. (Received September 12, 2008)

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