

İSTANBUL ANALYSIS SEMINARS

RENORMALIZED DELTA INTERACTION ON MANIFOLDS

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Abstract: We present a singular problem, first in flat space and later on manifolds, and propose a well-defined answer using the idea of renormalization in physics. Various properties of the resulting operator will be understood utilizing what is known about heat kernels on manifolds. The relation of this problem to the theory of self-adjoint extensions of the Laplace operator will be presented, mostly in a nonrigorous fashion.

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