

LOCALLY HARMONIC MAASS FORMS

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ABSTRACT. In my talk I want to introduce a new class of modular object which I call locally harmonic Maass forms and construct explicit examples of such functions. These are closely related to certain kernel functions for the Shimura and Shintani lifts between half-integral and integral weight cusp forms. Although they share many properties in common with harmonic weak Maass forms, they also have some properties which strikingly contrast those exhibited by harmonic weak Maass forms. Moreover I will show how these functions may be viewed in the framework of theta lifts.