1060-11-178 **Paul B Garrett*** (garrett@math.umn.edu), 127 Vincent Hall, 206 Church St. SE, Minneapolis, MN 55455. *Examples illustrating basic analytic issues in the spectral theory of automorphic forms.*

Automorphic spectral theory is subtle and a little dangerous, due to proximity to fundamental, intractable questions (from Selberg, Ramanujan, Lindelof, Riemann, Langlands, Arthur, et alia). Indeed, this proximity lends interest, all the more reason to cultivate means to make fine distinctions.

For example, it is well known and immediate that sharp point-wise estimates on Eisenstein series on GL(2) imply Lindelof. This might appear to impede a coherent discussion of pointwise convergence of automorphic spectral expansions. Yet, as observed many times in the last few decades, if we ask for no more than we need, questions about pointwise convergence in fairly general circumstances admit clear resolutions in the context of Schwartz and Sobolev.

Example computations, concerning finer details about resolvents and other aspects of geometric analysis of automorphic forms, are convenient in SL(2,C) and its arithmetic quotients, due to its peculiar advantage of being both complex and real split-rank one. Higher-rank complex groups afford further examples, with predictable complications. (Received March 29, 2010)