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CE-Saclay, 91191 Gif-sur-Yvette, France. *Open baker's map: a toy model for dissipative quantum  
chaos*. Preliminary report.

We are interested in the high-energy spectrum of certain nonselfadjoint operators appearing in the study of damped waves on compact manifolds of negative curvature, or wave scattering on manifolds of infinite volume. One common feature of these systems is that the corresponding classical flow is chaotic (such problems belong to the realm of "quantum chaos").

In order to shed more light on those spectral problems, we introduce a simple toy model (the Walsh-quantized baker's map), for which the spectrum can be computed explicitly. In particular, this model provides tentative answers to several open questions concerning the spectral distribution (existence of a fractal Weyl law, of a spectral gap). (Received April 14, 2010)