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Robert S Strichartz (str@math.cornell.edu) and **Baris Evren Ugurcan**
(ugurcan@ug.bilkent.edu.tr). *spectra of self-similar Laplacians on the Sierpinski gasket with
twists*. Preliminary report.

The familiar SG can be generated by an IFS obtained from the usual one by composing with reflections. Cucuringu and Strichartz ("Self-similar energy forms of the SG with twists", preprint) construct an explicit 2-parameter family of self-similar energy forms with respect to this IFS, and also a 2-parameter family of self-similar embeddings of SG in the plane, starting with any acute triangle, and using similarities with different contraction ratios. By choosing an appropriate self-similar measure on SG, we obtain a 2-parameter family of self-similar Laplacians. We have computed approximations of the Neumann spectra for these Laplacians, using Kigami's pointwise formula and also the finite element method. Also, we have used the outer approximation method on the different embeddings of SG. We have conjectured correspondence between the parameters of the two families, and experimental evidence that the spectra coincide, both eigenvalues and eigenfunctions. (Received August 29, 2006)