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Iancu Dima and **Rachel Popp*** (rachel.popp@gmail.com), 216 East 111th Street Apt. 4F, New York, NY 10029, and **Robert Strichartz**. *A convex surface with fractal curvature*. Preliminary report.

A convex surface in space has a well-defined curvature which is a measure. Can the measure be a fractal one? Yes! We construct a surface that is obtained from the octahedron by pushing out 4 of the faces so that the curvature is supported in a copy of the Sierpinski gasket in each of them, and is essentially the self similar measure on SG. We then compute the bottom of the spectrum of the associated Laplacian using the finite element method on polyhedral approximations of our surface, and speculate on the behavior of the entire spectrum. (Received January 26, 2016)