Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

**Inside a Ball of Crumpled Aluminum Foil**[1] ANNE DOMINIQUE CAMBOU, NARAYANAN MENON, UMass Amherst — We have studied the three-dimensional geometry of a crumpled sheet via x-ray CT scans. We crumple circular sheets of aluminum with thicknesses of 30–50$\mu m$ and diameter 100000$\mu m$ into spherical balls of diameter 15000$\mu m$ to 20000$\mu m$. We then perform CT scans with a resolution of $6\mu m^3$/voxel. This allows us to fully resolve the conformation of the sheet. We use the reconstructed CT images to determine the mass distribution inside the crumpled ball. We also report on a box-counting analysis to assess the fractal nature of the mass distribution.

[1]We acknowledge financial support from NSF-DMR 0606216 and NSF-CBET 0609107

Anne Dominique Cambou
UMass Amherst

Date submitted: 27 Nov 2007 Electronic form version 1.4