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5. Differential Geometry and Global Analysis

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The Hausdorff measures of Sierpinski gasket and Koch curve

To count the Hausdorff measure of fractals is very difficult, even for the self-similar sets satisfying open set condition and so far we know almost nothing about it. J. Marion posed two conjectures for Sierpinski gasket and Koch curve. We suggest so called the "Partial Estimation Approach" and thereby negate the conjectures. In addition, we also obtain the exact value of the Hausdorff measure of a Sierpinski carpet. Ref. J. Marion, Mesures de Hausdorff D'Ensembles Fractals, The Hausdorff measures of Sierpinski gasket and Koch curve, Ann. sc. math. Quebec, 11 (1987), 1:111–137.