

## AN APPLICATION OF A FIXED-POINT THEOREM TO NEUMANN PROBLEMS ON THE SIERPINSKI FRACTAL

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*Dedicated to prof. dr. Ioan A. Rus on the occasion of his 80<sup>th</sup> birthday.*

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**Abstract.** We prepare first the background for the study of Neumann problems on the Sierpinski fractal in the  $N$ -dimensional Euclidean space. Hereafter we apply the Leray-Schauder continuation principle to prove the existence of at least one solution of certain Neumann problems on this fractal.

**Key Words and Phrases:** Sierpinski gasket, harmonic extension procedure, Leray-Schauder continuation principle, Neumann problem on the Sierpinski gasket.

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