

Seminario de Ecuaciones Diferenciales y Análisis Numérico
Universidad de Buenos Aires - Argentina
07 de Agosto de 2018
Ciudad Universitaria - Pabellón I
Departamento de Matemática
Segundo Piso - Sala de Conferencias del DM-IMAS, 11:00.

Nonlinear mean value formulas on fractal sets.

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We study solutions to nonlinear mean value formulas on fractal sets. We focus on the mean value problem

$$\frac{1}{2} \max_{q \in V_{m,p}} \{f(q)\} + \frac{1}{2} \min_{q \in V_{m,p}} \{f(q)\} - f(p) = 0$$

in the Sierpinsky gasket with prescribed values $f(p_1)$, $f(p_2)$ and $f(p_3)$ at the three vertices of the first triangle. For this problem we show existence and uniqueness of a continuous solution and analyze some properties like the validity of a comparison principle, Lipschitz continuity of solutions (regularity) and continuous dependence of the solution with respect to the prescribed values at the three vertices of the first triangle.

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