SEMINÁRIO
Análise e Equações Diferenciais

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Regularity theory for fully nonlinear nonlocal equations

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ABSTRACT:

In this talk, we investigate the regularity properties of solutions to a class of fully nonlinear nonlocal equations, both elliptic and degenerate. For the elliptic case, we establish optimal regularity results for equations with a right-hand side in L^p, where the regularity space depends on the value of p. In the degenerate case, we prove the existence of at least one viscosity solution belonging to the class $C_{loc}^{1, \alpha}$ for some constant $\alpha \in (0,1)$. Additionally, when the order of the operator is sufficiently close to 2, we derive regularity estimates in Hölder spaces for the gradient of any viscosity solution.

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