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THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

PHD STUDENT SEMINAR

Boundary Regularity of Solutions to the Fractional Porous Medium Type Equation

By

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Abstract

We study the boundary regularity of nonnegative viscosity solutions to fully nonlinear parabolic equations of fractional porous medium-type in bounded domains. We consider the class of nonlocal operators $\mathcal{L}_* \subset \mathcal{L}_0$, where $\mathcal{L}_0$ is the class defined by Caffarelli and Silvestre. Actually, for fully nonlinear elliptic operator I with respect to $\mathcal{L}_*$, we study the global Hölder regularity of $u/\operatorname{dist}(x, \partial\Omega)^s$, where u is a solution to $\partial_t u - u^\gamma I(u) = 0$ in $I \times \Omega$, $u = 0$ in $I \times \Omega^c$.

Date : 13 May 2026, Wednesday ***(* revised)***

Time : 1:00pm ***(* revised)***

Venue : Room 2463 (Lifts 25/26) ***(* revised)***

All are Welcome!