Texas Tech University. Analysis Seminars.

Mixed boundary value problems for non-divergence type elliptic equations in unbounded domains

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Monday, March 19, 2018
Room: MATH 108. Time: 4:00 pm.

ABSTRACT. We investigate the qualitative properties of solutions to the Zaremba type problem in unbounded domains for non-divergence elliptic equations with possible degeneracy at infinity. The main result is a Phragmén-Lindelöf type principle on growth/decay of a solution at infinity depending on both the structure of the Neumann portion of the boundary and the "thickness" of its Dirichlet portion. The result is formulated in terms of the so-called s-capacity of the Dirichlet portion of the boundary, while the Neumann boundary should satisfy certain "admissibility" condition in a sequence of layers converging to infinity. This is a joint work with Dat Cao (Texas Tech University) and Alexander I. Nazarov (St. Petersburg Department of Steklov Institute).