

Seminar of the Work Group
Nonlinear Partial Differential Equations
SS 24

June 5th, 2024, 11:30 - 12:30
Seminar room: SR 3.069

Classification of Global Solutions to the Obstacle Problem

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Abstract

Recently a long standing conjecture on the classification of global solutions to the obstacle problem in dimensions larger than 3 was resolved by Eberle, Figalli and Weiss. Namely, they showed that the zero level set of any global solution to the obstacle problem is an ellipsoid, paraboloid or cylinder with an ellipsoid or paraboloid as base. Although the conjecture was resolved in two dimensions by Sakai in the 80's using complex analysis techniques, his approach leaves closely related problems in two dimensions unresolved. In this talk, I will discuss how the two dimensional result can be obtained without complex analysis as well as some applications of these results.