LARGE SOLUTIONS FOR NON UNIFORMLY ELLIPTIC SEMILINEAR EQUATIONS.

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ABSTRACT. In this talk I am going to present two results on large solutions for elliptic semilinear problems with the form

$$-Lu + u^p = 0 \quad \text{in } \Omega,$$

where $p > 1$ and L is an elliptic operator showing certain degeneracy on the boundary.

In the first case, we obtain well-posedness and asymptotic behavior of large solutions for a class of second-order elliptic operators L in non-divergence form, which are degenerate in the normal direction to $\partial\Omega$ at each point on the boundary.

In the second case, L is a fractional-type nonlocal operator whose domain of integration shrinks on the boundary, feature which can be regarded as a degenerate ellipticity in the sense of Caffarelli-Silvestre. Existence and uniqueness in the class of large solutions with "natural" rate of explosion is established for this problem.

Joint works with Alexander Quaas and Julio Rossi, respectively.