

Asymptotic behavior of solutions of elliptic and parabolic problems blowing up at the boundary

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Semi linear problems whose nonlinearities grow strongly at infinity give rise to large solutions which blow up at the boundary. The geometry of the boundary has in general no effect to the first order asymptotic behavior of these solutions, which is expressed as a function of the distance to the boundary. It appears only in the higher order terms. In this talk we shall give a survey on the behavior of large solutions near the boundary and discuss some mechanism such as a Hardy potential or additional nonlinear gradient terms, which can have a considerable effect and determine the boundary behavior of the large solutions.

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