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Asymptotic behavior of positive solutions of a Dirichlet problem involving supercritical nonlinearities

Abstract: Let $p > 1$, $q > p$, $\lambda > 0$ and $s \in]1, p[$. We study, for $s \to p^-$, the behavior of positive solutions of the problem $-\Delta_p u = \lambda u^{s-1} + u^{q-1}$ in Ω, $u_{|\partial\Omega} = 0$. In particular, we give a positive answer to an open question formulated in a recent paper of the first author.

Keywords: elliptic boundary value problems; positive solutions; variational methods; asymptotic behavior; combined nonlinearities
AMS Subject Classification: 35J20, 35J25

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