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Chunshan Zhao* (czhao@georgiasouthern.edu), Department of Mathematical Sciences,
Georgia Southern University, Statesboro, GA 30460. *Asymptotic Behaviors of a Class of
N-Laplacian Neumann Problems with Large Diffusion.*

We study asymptotic behaviors of positive solutions to a class of Neumann elliptic problems in bounded domain as diffusion coefficient goes to infinity. At first we study subcritical case and find that there is an uniform upper bound for all positive solutions and all of them will approach a constant as diffusion coefficient approaches infinity. Secondly, we study critical case and show same conclusions hold for least-energy solutions under some assumptions. (Received May 17, 2008)