Asymptotic behaviour of the doubly nonlinear equation $u_t=\Delta_p u^m$ on bounded domains

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(Submitted on 7 Jun 2012)

We study the homogeneous Dirichlet problem for the doubly nonlinear equation $u_t = \Delta_p u^m$, where $p>1,\ m>0$ posed in a bounded domain in $\mathbb{R}^N$ with homogeneous boundary conditions and with non-negative and integrable data. In this paper we consider the degenerate case $m(p-1)>1$ and the quasilinear case $m(p-1)=1$. We establish the large-time behaviour by proving the uniform convergence to a unique asymptotic profile and we also give rates for this convergence.

Comments:	47 pages, 4 figures
Subjects:	**Analysis of PDEs (math.AP)**
MSC classes:	35B40, 35K55
Cite as:	**arXiv:1206.1583 [math.AP]**
	(or **arXiv:1206.1583v1 [math.AP]** for this version)

Submission history

From: Diana Stan [view email]
[v1] Thu, 7 Jun 2012 19:13:27 GMT (305kb,D)

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