

Multiple blowup for a porous medium equation with reaction

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We consider the Cauchy problem

$$\begin{cases} \partial_t u = \Delta(u^m) + u^p & \text{in } \mathbb{R}^N \times (0, \infty), \\ u(x, 0) = u_0(x) \geq 0 & \text{in } \mathbb{R}^N, \end{cases}$$

with $p > m > 1$. We obtain weak solutions which blow up at several times and become bounded in intervals between these blowup times.