Long time behavior of doubly nonlinear parabolic equations

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Our aim in this talk is to study the long time behavior of a class of doubly nonlinear parabolic equations of the form

$$\frac{\partial \alpha(u)}{\partial t} - \mathrm{div}(\beta(\nabla u)) + f(u) = 0.$$

In particular, we consider situations in which α can degenerate at $u = 0$ or can vanish for $u \leq 0$ (in which case, the equation becomes elliptic for $u \leq 0$). We are interested here in the existence of finite dimensional attractors. This is a joint work with S. Zelik.