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# Global convergence of the Yamabe flow

Let $M$ be a compact manifold of dimension $n \geq 3$. Along the Yamabe flow, a Riemannian metric on $M$ is deformed such that $\frac{\partial g}{\partial t} = -(R_g - r_g)\, g$, where $R_g$ is the scalar curvature associated with the metric $g$ and $r_g$ denotes the mean value of $R_g$. It is known that the Yamabe flow exists for all time. Moreover, if $3 \leq n \leq 5$ or $M$ is locally conformally flat, then the solution approaches a metric of constant scalar curvature as $t \to \infty$. I will describe how this result can be generalized to higher dimensions. The key ingredient in the proof is a new construction of test functions whose Yamabe energy is less than that of the round sphere.