

Instability of the Yamabe equation

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In this talk, I will describe a work in progress (jointly with A. Pistoia and J. Vetois) about the existence of blowing-up solutions for linear perturbations of the Yamabe equation. The Schoen conjecture –concerning the compactness of Yamabe metrics– is known to hold also when perturbing the linear part from below.

Instead, we show that perturbations of the linear part from above immediately give rise to non-compact sequence of solutions. The blow-up points can be simple or even non-simple (accumulation of bubbles and bubbles' tower).