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Title: Explicit minimizing sequences related to the stability of the Riemannian Penrose Inequality

In 2015, Mantoulidis and Schoen suggested a rather explicit construction of asymptotically flat Riemannian 3-manifolds of non-negative scalar curvature with minimal, strictly outward minimizing inner boundary relying on a conformal flow of metrics. This construction was tailored to compute the so-called Bartnik mass functional for minimal surfaces. It turned out to be extremely useful also for understanding the stability (or almost rigidity) of the Riemannian Penrose inequality, a central geometric inequality in General Relativity proved by Bray and by Huisken and Ilmanen. After reviewing their construction, I will discuss how it can be refined to prove instability of the Riemannian Penrose inequality. This is joint work with Armando Cabrera Pacheco, building on ideas developed by Cabrera Pacheco, McCormick, Miao, Xie (in alphabetic order) and the speaker.