

# Canonical metrics on blow-ups and resolutions of compact and non-compact manifolds

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Inspired by a sequence of papers by LeBrun with many collaborators (notably S. Simanca, M. Singer, Kim and Pontecorvo), I started a long term project with F. Pacard, M. Singer, L. Mazziere, R. Lena, A. Della Vedova to construct new Kahler constant scalar curvature and extremal metrics on blow-ups of smooth points and resolutions of isolated singularities of compact orbifolds. After recalling these results, I will present some new results obtained with C. Spotti, in the non-compact case and their relationship with the recent beautiful work of Hein and LeBrun on the Mass of an ALE manifold.

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