

# Extremal Kähler metrics and energy functionals on projective bundles

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In this paper, we prove the equivalence of the existence of extremal Kähler metrics and the properness of the modified K energy on projective bundles. Moreover, we discuss the relations of the lower boundedness of the K energy, the infimum of the Calabi energy and the extremal polynomials. In particular, we give an example where the modified K energy is bounded from below but not proper.

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