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Claude LeBrun*, Department of Mathematics, SUNY, Z-3651, Stony Brook, NY 11794. *Einstein Metrics, Curvature Functionals, and Conformally Kähler Geometry.*

It is well known that Einstein metrics on smooth compact manifolds are necessarily critical points of certain natural curvature functionals. In most dimensions, however, one can show by example that Einstein metrics of special holonomy are not usually minima of even the best-behaved such curvature functionals. In dimension 4, however, the situation is dramatically different. We will see that conformally Kähler, Einstein metrics on compact 4-manifolds do indeed minimize an appropriate curvature functional. However, the curvature functional one ought to consider turns out to crucially depend on the sign of the Einstein constant! (Received September 16, 2013)