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Polarized 4-manifolds, extremal Kähler metrics, and Seiberg-Witten theory. (English)

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Author's abstract: " Using Seiberg-Witten theory, it is shown that any Kähler metric of constant negative scalar curvature on a compact 4-manifold M minimizes the L^2-norm of scalar curvature among Riemannian metrics compatible with a fixed decomposition $H^2(M) = H^+ \oplus H^-$. This implies, for example, that any such metric on a minimal ruled surface must be locally symmetric".

Reviewer: N.Blažić (Beograd)

MSC:

53C55	Global differential geometry of Hermitian and Kählerian manifolds
57N13	Topology of the Euclidean 4-space, 4-manifolds (MSC2010)
53C35	Differential geometry of symmetric spaces

Keywords:

Kähler metric; scalar curvature; Seiberg-Witten theory; locally symmetric space

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