

Title: Almost-Kähler anti-self-dual metrics

Abstract: We show the existence of strictly almost-Kähler anti-self-dual metrics on certain 4-manifolds by deforming a scalar-flat Kähler metric. We prove any almost-Kähler anti-self-dual 4-manifold has a non-trivial Seiberg-Witten invariant. Using this, we show almost-Kähler anti-self-dual metrics do not exist on certain other 4-manifolds.

References

[L] C. LeBrun, On the scalar curvature of complex surfaces, *Geom. Func. An.* 5 (1995) 619-628.

[LS] C. LeBrun, M.A. Singer, Existence and deformation theory for scalar-flat Kähler metrics on compact complex surfaces, *Inv. Math.* 112 (1993) 273-313.