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Scalar curvature is moment map in generalized Kähler geometry.

Behind the Kähler geometry, a framework of symplectic geometry appears and plays an important role. Fujiki and Donaldson showed that the scalar curvature of Kähler manifolds arises as the moment map. In this talk we shall pursue an analogue of the moment map framework in generalized Kähler geometry. We shall introduce the notion of the curvature of generalized connection and define the scalar curvature to be the mean curvature of the canonical generalized connection of the canonical line bundle over a compact generalized Kähler manifold. Then a framework of symplectic geometry over generalized Kähler manifolds naturally appears and we show that the scalar curvature is the moment map in generalized Kähler geometry. Then we prove that the smooth part of the moduli space of generalized Kähler structures with constant generalized scalar curvature is a finite dimensional Kähler manifold. Explicit descriptions of the generalized Ricci form and the generalized scalar curvature are given on a generalized Kähler manifold of type $(0,0)$. Poisson structures constructed from a Kähler action of a commutative Lie group on a Kähler-Einstein manifold provide intriguing deformations of generalized Kähler-Einstein structures. (Received August 27, 2017)