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**Hans-Joachim Hein\*** (hein@umd.edu) and **Claude LeBrun**. *Mass in Kahler geometry*.

In General Relativity, isolated gravitating systems are modeled by complete Riemannian 3-manifolds asymptotic to flat  $\mathbb{R}^3$  at infinity. The “mass” of such a manifold is a real number defined in terms of the higher order asymptotics of the metric. As its name suggests, in the examples coming from physics, it represents the total mass of the gravitating system. From a mathematical point of view, it makes sense as an invariant of asymptotically (locally) Euclidean manifolds in all dimensions, and has been widely studied as such. We prove an explicit formula for the mass in the Kahler case, which implies the Positive Mass Theorem for Kahler manifolds. (Received February 01, 2016)