Integral Kahler Invariants and the Bergman kernel asymptotics for line bundles

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Abstract

On a compact Kahler manifold, one can define global invariants by integrating local invariants of the metric. Assume that a global invariant thus obtained depends only on the Kahler class. Then we show that the integrand can be decomposed into a Chern polynomial (the integrand of a Chern number) and divergences of one forms, which do not contribute to the integral. We apply this decomposition formula to describe the asymptotic expansion of the Bergman kernel for positive line bundles and to show that the CR Q-curvature on a Sasakian manifold is a divergence. This is a joint work with Spyros Alexakis (U Toronto).