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Tian's theorem for Grassmannian embeddings and degeneracy sets of random sections

Let (X, ω) be a compact Kähler manifold, (L, h^L) be a positive line bundle, and (E, h^E) be a Hermitian holomorphic vector bundle of rank r on X. We show that the pullback by the Kodaira embedding associated to $L^p \otimes E$ of the k-th Chern class of the dual of the universal bundle over the Grassmannian converges as $p \to \infty$ to the k-th power of the Chern form $c_1(L, h^L)$, for $0 \leq k \leq r$. As a consequence we show that the limit distribution of zeros of random sequences of holomorphic sections of high powers $L^p \otimes E$ is $c_1(L, h^L)^r$. Furthermore, we compute the expectation of the currents of integration along degeneracy sets of random holomorphic sections. This is joint work with Turgay Bayraktar, Bingxiao Liu and George Marinescu.