2019 Taipei Conference on Geometric Invariance and Partial Differential Equations
Institute of Mathematics, Academia Sinica, Taipei, Taiwan
January 11 - 14, 2019

# Characteristic forms and integral CR invariants

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**Abstract**

A strictly pseudoconvex domain $\Omega \subset \mathbb{C}^{n+1}$ admits a complete Kähler-Einstein metric $g$, called the Cheng-Yau metric. By the c-projective compactification, Burns and Epstein introduced a renormalized connection for $g$, which extends up to the boundary $M$, and defined renormalized characteristic forms on $\Omega$. In this talk, by using their renormalized connection, we construct a (secondary) integral CR invariant of $M$ for each invariant polynomial $\Phi$ of degree $m$ $(0 \leq m \leq n)$. When $m = 0$ (i.e., $\Phi = 1$), the invariant coincides with the total $Q'$-curvature. When $m = n$, we construct a "primed" pseudo-hermitian invariant $\mathcal{I}'_\Phi$ which integrates to the corresponding invariant. These are generalizations of the $\mathcal{I}'$-curvature on CR five-manifolds, introduced by Case-Gover.