

# INVARIANT CURRENTS ON LIMIT SETS OF GROUPS ACTING ON COMPLEX HYPERBOLIC SPACES

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It is often useful to study hyperbolic  $n$ -manifolds  $M$  via the conformal action of their fundamental groups on the  $(n - 1)$ -dimensional sphere. For instance, for convex-cocompact quotients of the hyperbolic space, invariant  $k$ -currents on the sphere that are supported on the limit set of that action give (almost) canonical representatives of de Rham cohomology classes of  $M$  of degree  $n - k$ . After having explained this relation the talk will concentrate on a similar kind of Hodge theory for convex cocompact quotients of complex hyperbolic spaces. Here the action of the fundamental group on the boundary sphere is no longer conformal but  $CR$ , and instead of currents we have to consider distributional sections of Rumin's complex.