

# Monge-Ampère Measures and Poletsky-Stessin Hardy Spaces on Bounded Hyperconvex Domains

## Abstract

In this talk we will consider Poletsky-Stessin Hardy spaces of holomorphic functions, denoted by  $H_u^p(\Omega)$  (Poletsky, Stessin; 2008) on hyperconvex domains  $\Omega$ . These classes are associated with a continuous, negative, plurisubharmonic exhaustion function  $u$  and the Monge-Ampère measure (Demailly, 1985) generated from this exhaustion function. In the first part of this talk we will consider the Poletsky-Stessin Hardy spaces on domains in the complex plane bounded by an analytic Jordan curve. We will give the boundary value characterization, factorization and approximation results that are analogous to classical Hardy space case. Moreover we will show the differences between the Poletsky-Stessin Hardy spaces and the classical Hardy spaces as far as the composition operators on these spaces are concerned. In the second part we will consider the Poletsky-Stessin Hardy spaces on domains in  $\mathbb{C}^n$  for  $n > 1$ . We will give some results on boundary behavior of Poletsky-Stessin Hardy spaces on polydisc, complex ellipsoids and strongly convex domains in  $\mathbb{C}^n$ ,  $n > 1$ .