

**Composition and superposition operators on weighted Banach
spaces of holomorphic functions of type H^∞**

José Bonet

IUMPA, Universidad Politécnica de Valencia,

E-46071 Valencia, SPAIN

E-mail: jbonet@mat.upv.es

Abstract: The purpose of this lecture is to present a survey on recent research on composition operators $C_\varphi : f \rightarrow f \circ \varphi$, for a self map φ on \mathbb{D} , on weighted spaces of holomorphic functions $Hv(\mathbb{D})$ and $Hv_0(\mathbb{D})$ on the unit disc \mathbb{D} of the complex plane. These Banach spaces are defined by weighted seminorms and were investigated by Shields, Williams, Lusky and others. We will discuss, continuity, compactness, essential norm, the spectrum, compactness of differences of composition operators, isometries and operators with compact range among other topics, thus reporting on work which started in a paper by Bonet, Domański, Lindström and Taskinen [1] and continued in many other articles, like the recent one [2].

Superposition operators $S_\varphi : f \rightarrow \varphi \circ f$, for an entire function φ on the same weighted Banach space will be briefly considered.

References:

1. J. Bonet, P. Domański, M. Lindström, J. Taskinen, Composition operators between weighted Banach spaces of analytic functions, J. Austral. Math. Soc. (Series A) 64 (1998), 101–118.
2. J. Bonet, M. Lindström, E. Wolf, Isometric weighted composition operators on weighted Banach spaces of Type H^∞ , Proc. Amer. Math. Soc. 136 (2008), 4267-4273.