

## Extension of holomorphic functions defined on singular complex hypersurfaces with growth estimates

WILLIAM ALEXANDRE AND EMMANUEL MAZZILLI

**Abstract.** Let  $D$  be a strictly convex domain and  $X$  be a singular complex hypersurface in  $\mathbb{C}^n$  such that  $X \cap D \neq \emptyset$  and  $X \cap bD$  is transverse. We first give necessary conditions for a function holomorphic on  $D \cap X$  to admit a holomorphic extension belonging to  $L^q(D)$ , with  $q \in [1, +\infty]$ . When  $n = 2$  and  $q < +\infty$ , we then prove that this condition is also sufficient. When  $q = +\infty$  we prove that this condition implies the existence of a *BMO*-holomorphic extension. In both cases, the extensions are given by mean of integral representation formulas and new residue currents.

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