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Yunus E Zeytuncu* (zeytuncu@math.tamu.edu), College Station, TX 77840. *Regularity of canonical operators and the Nebenhülle of Hartogs domains.*

Let \mathbb{D} denote the unit disk in \mathbb{C} and let $\phi(z)$ be a bounded subharmonic function on \mathbb{D} . We consider the pseudoconvex complete Hartogs domains in \mathbb{C}^2 of the form

$$\Omega = \{(z, w) \in \mathbb{C}^2 : z \in \mathbb{D} \text{ and } |w| < e^{-\phi(z)}\}.$$

Let N_1 denote the $\bar{\partial}$ -Neumann operator on $L^2_{(0,1)}(\Omega)$ and \mathbf{B}_Ω denote the Bergman projection on $L^2(\Omega)$. In this talk, we relate the regularity properties of N_1 and \mathbf{B}_Ω to the Nebenhülle of Ω and the Stein neighborhood bases of Ω . (Received September 24, 2012)