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Yunus E Zeytuncu* (zeytuncu@math.tamu.edu), Texas A&M University Milner Hall, Mailstop 3368, College Station, TX 77843. *Regularity of Weighted Bergman Projections.*

Let \mathbb{D} be the unit disc in \mathbb{C}^1 and λ be a radially symmetric nonvanishing continuous function on \mathbb{D} . The weighted Bergman space $A^2(\mathbb{D}, \lambda)$ is the space of holomorphic functions that are square integrable with respect to the weight $\lambda(z)dA(z)$ and the weighted Bergman projection \mathbf{B}_λ is the orthogonal projection operator from $L^2(\mathbb{D}, \lambda)$ onto $A^2(\mathbb{D}, \lambda)$. In this talk, we discuss the relation between regularity (L^p and Sobolev) of the weighted Bergman projection \mathbf{B}_λ and analytic properties of the weight function λ on \mathbb{D} . We present examples where regularity of \mathbf{B}_λ changes significantly as λ changes. (Received September 09, 2011)