1077-47-1648 **Waleed K. Al-Rawashdeh*** (walrawashdeh@mtech.edu), Department of Mathematical Sciences, Montana Tech of The University of Montana, 1300 W. Park Street, Butte, MT 59701.
Compact Weighted Composition Operators on Bergman Spaces.

Let φ be an analytic self-map of the unit ball $\mathbb{B}_n$ and let ψ be an analytic function on $\mathbb{B}_n$. For $\alpha > -1$ and $p > 0$ the weighted Bergman space $A^p_\alpha(\mathbb{B}_n)$ consists of all holomorphic functions in $L^p(\mathbb{B}_n, dv_\alpha)$, the weighted Lebesgue measure dv_α is defined as $dv_\alpha(z) = c_\alpha(1-|z|^2)^\alpha dv(z)$, where dv is the volume measure on $\mathbb{B}_n$ and $c_\alpha = \frac{\Gamma(n+\alpha+1)}{n!\Gamma(\alpha+1)}$ is a normalizing constant so that dv_α is a probability measure on $\mathbb{B}_n$.

Given $W_{\psi,\varphi} : A^p_\alpha(\mathbb{B}_n) \to A^q_\beta(\mathbb{B}_n)$ we characterize the boundedness and compactness of the weighted composition operator $W_{\psi,\varphi}$, where $0 < q < p < \infty$ and $-1 < \alpha, \beta < \infty$, in terms of Carleson measures. The results will be expressed in terms of the weighted φ-Berezin transform. (Received September 20, 2011)