1078-46-345 **Will Gryc** (wgryc@muhlenberg.edu), Department of Mathematics, Muhlenberg College, 2400 W. Chew Street, Allentown, PA 18104, and **Todd Kemp*** (tkemp@math.ucsd.edu), Department of Mathematics, University of California, San Diego, 9500 Gilman Drive, La Jolla, CA 92093-0112.
Duality in Segal-Bargmann Spaces.

The Segal-Bargmann space is the holomorphic L^2 space of Gaussian measure γ on $\mathbb{C}^n$. As a Hilbert space, it is (of course) self-dual. The corresponding holomorphic L^p spaces for $p \neq 2$ have more complicated duality relations. It has been known since the mid-80s that the dual to $L^p_{hol}(\gamma)$ can be identified with $L^{p'}(\gamma_p)$ for the conjugate exponent $\frac{1}{p} + \frac{1}{p'} = 1$ and a *dilated* Gaussian measure γ_p; but this is not isometric.

Here we will present a tight estimate on constant of comparison between the dual norms. It grows exponentially fast with dimension n, leaving open many interesting questions about L^p Segal-Bargmann spaces in infinite-dimensions. The key to the proof is viewing $L^p_{hol}(\gamma)$ as a space of holomorphic sections over a(n in this case trivial) vector bundle; this point of view shows why the dilation of the measure is natural, and translates the problem to the L^p-norm of an orthogonal projection. (Received December 13, 2011)