1107-30-14 **Pritha Chakraborty*** (pritha.chakraborty@ttu.edu), Texas Tech University, Department of Mathematics & Statistics, Broadway & Boston, Lubbock, TX 79409, and **Alexander Yu. Solynin**. *Extremal Problems in Bergman spaces.* Preliminary report.

In 1991, Boris Korenblum conjectured and Walter Hayman proved in 1992 that for $f,\ g \in \mathcal{A}^2(\mathbb{D})$, there is a constant c, $0 < c < 1$, such that if $|f(z)| \le |g(z)|$ for all z such that $c < |z| < 1$, then $\|f\|_2 \le \|g\|_2$, where the Bergman space $\mathcal{A}^2(\mathbb{D})$ is the set of analytic functions whose modulus is square integrable with respect to area measure with norm $\|f\|_2 = \left(\int_{\mathbb{D}} |f(z)|^2\, dA(z)\right)^{\frac{1}{2}}$. The largest possible value of such c is called the Korenblum's constant. The exact value of this constant, which is denoted by κ, remains unknown. In this talk, I will discuss some non-linear extremal problems in the Bergman space and prove some preliminary results which will shed some light on the Korenblum's problem. (Received October 27, 2014)