1125-30-1392 **Pritha Chakraborty*** (pritha.chakraborty@tamucc.edu) and **Alexander Solynin**. *An Extremal Problem Approach to Korenblum's Maximum Principle in Bergman Spaces.*

B. Korenblum conjectured and W. Hayman proved that for $f,\ g \in \mathcal{A}^2(\mathbb{D})$, there is a constant c, $0 < c < 1$, such that if $|f(z)| \leq |g(z)|$ for all z in $c \leq |z| < 1$, then $\|f\|_2 \leq \|g\|_2$, where $\mathcal{A}^2(\mathbb{D})$ is the set of square integrable analytic functions in the unit disc $\mathbb{D}$. 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. We define the Korenblum's problem in extremal setting to discuss a new approach towards finding κ. The focus of this talk will lie on some non-linear extremal problems in Bergman spaces and properties of extremal functions. (Received September 16, 2016)