1161-30-65 **Dima Khavinson*** (dkhavins@usf.edu). *Some Questions on L^1-approximation in Bergman Spaces.*

Suppose a continuous on the closed unit disk function $\omega, ||\omega||_{L^\infty} = 1$, can be approximated by analytic functions in $L^1(dA)$-norm within ϵ, here dA stands for the area measure.

Question. Can we approximate it (in $L^1(dA)$) within $C\epsilon$ by analytic functions with the L^∞ norm at most 1? (The constant C is , of course, independent of ω.) The answer is NO, Moreover. the asymptotics, when ϵ, tends to 0 can be arbitrarily bad (DK, 2020). **History**. The problem is the ϵ - version of the celebrated Hoffman-Wermer Theorem for Uniform Algebras and was posed by J. Wermer in 1980. The answer of the analogous question in $L^1(d\theta)$, where $d\theta$ is the Lebesgue measure on the unit circle, or, in most generality, in the hyperdirichlet algebras content, is also NO (DK-H.Shapiro-F. Perez-Gonzalez, 1998, DK-2019), and "Yes", if we replace $O(\epsilon)$ by $O(\epsilon)\log\frac{1}{\epsilon}$ for the disk , and $O(\epsilon)^{1/2}\log\frac{1}{\epsilon}$ for the hypodirichlet case (DK, 2020). (Received August 08, 2020)