1046-30-187 **Erin Rita Militzer*** (militzer@ms.uky.edu), 430 Redding Road, Apt #1806, Lexington, KY 40517. *L^p - Bounded Point Evaluations and Uniform Rational Approximation.* Preliminary report.

In 1991, J.E. Thompson determined completely the structure of $H^2(\mu)$, the closed subspace of $L^2(\mu)$ that is spanned by the polynomials, whenever μ is a compactly supported measure in the complex plane. In 2006, J.E. Brennan proved Thomson's main theorem using Tolsa's work on the semiadditivity of analytic capacity. We apply the techniques used from the latter proof to answer a question posed in 1973 by Brennan which is the following: Does there exist a compact set E such that $H^p(E, dA) = L^p(E, dA)$ for every p, but $R(E) \neq C(E)$? Here $C(E)$ is the space of continuous functions on E and $R(E)$ the uniform closure of the rational functions with poles off E. We answer this question in the negative. (Received August 14, 2008)