

1113-46-118

Richard M Aron* (aron@math.kent.edu), Richard M. Aron, Department of Mathematics, Kent State University, Kent, OH 44242, **Javier Falco Benavent** (franjfal@gmail.com), Javier Falco Benavent, Department of Mathematics, Kent State University, Kent, OH 44242, **Domingo Garcia**, Departamento de Analisis Matematico, Universidad de Valencia, Dr. Moliner, 50, 46100 Burjassot, Spain, and **Manuel Maestre**, Departamento de Analisis Matematico, Universidad de Valencia, Dr. Moliner, 50, 46100 Burjassot, Spain. *Analytic structure in Fibers*. Preliminary report.

Let B_X be the open unit ball of a complex Banach space X . Denote by $\mathcal{H}^\infty(B_X)$ the Banach algebra of bounded analytic functions $f : B_X \rightarrow \mathbb{C}$, endowed with the sup-norm. Our interest is in the *maximal ideal space* $\mathcal{M}(\mathcal{H}^\infty(B_X)) : \equiv$

$$\{\varphi : \mathcal{H}^\infty(B_X) \rightarrow \mathbb{C} \mid \varphi \text{ is a (non - trivial, continuous) homomorphism}\}.$$

After reviewing the classical situation (when $X = \mathbb{C}$ so that $\mathcal{H}^\infty(B_{\mathbb{C}})$ is just the standard \mathcal{H}^∞), we will discuss properties of the natural fibering $\pi : \mathcal{M}(\mathcal{H}^\infty(B_X)) \rightarrow \overline{B_{X^{**}}}$. We will examine fibers $\pi^{-1}(z)$ for points $z \in \overline{B_{X^{**}}}$, and we will specialize to two cases: $X = c_0$ and $X = \mathbb{C}^2$, where some intriguing basic questions have arisen.

This is a preliminary report on joint work with J. Falcó (Kent) and D. García and M. Maestre (Valencia). (Received August 16, 2015)