1067-47-693 **Michael Jury*** (mjury@ufl.edu), Department of Mathematics, University of Florida, PO Box 118105, Gainesville, FL 32611-8105. *Commutative operator algebras and realizations of polynomials on domains in* $\mathbb{C}^n$. Preliminary report.

Let Ω be the unit ball of a norm on $\mathbb{C}^n$, and E any operator space whose unit ball at the scalar level is Ω. Inspired by results of Ambrozie-Timotin, Ball-Bolotnikov and Mittal-Paulsen, we consider operator algebras of functions on Ω whose unit balls admit transfer function realizations. Such a ball is characterized by a von Neumann-type inequality and can be interpreted as the unit ball of the universal commutative operator algebra generated by E. The focus of the talk will be on some interesting examples obtained by taking E to be a maximal or minimal operator space over $\mathbb{B}^n$ (= ball(ℓ^2_n)) and the polydisk (= ball(ℓ^∞_n)). (Received September 13, 2010)