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Mihai Popa* (popa@mast.queensu.ca), Department of Mathematics, Queen's University, Jeffery Hall, 1 University Ave, Kingston, Ontario K7L 3N6, Canada. *Hardy classes on non-commutative unit ball.*

The talk will present some results, joint work with V. Vinnikov, in the study of the Hardy space H^2 of locally bounded non-commutative functions on the non-commutative unit ball of a variety of finite dimensional operator spaces. Our methods combine the general theory of non-commutative functions with asymptotic freeness results of D.-V. Voiculescu and formulas for integration over unitary groups of B. Collins and P. Sniady. (Received September 24, 2012)