1097-30-39 **Costel P Peligrad*** (peligrc@ucmail.uc.edu), University of Cincinnati, Department of Mathematical Sciences, P.O. Box 45221-0025, Cincinnati, OH 45221-0025. *Reflexive operator algebras on non commutative Hardy spaces.* Preliminary report.

We consider a non trivial action of the circle group, $\boldsymbol{T}$ on a von Neumann algebra M such that the Arveson spectrum is finite or, if the spectrum is infinite, the spectral subspace corresponding to the least positive element contains an unitary element. Similarly to the case when $M = L^{\infty}(\boldsymbol{T})$ is acted upon by translations, we define the generalized Hardy space $H_{+} \subset H$ where H is the Hilbert space of the standard representation of M and the subalgebra M_{+} of analytic elements of M with respect to the action. We prove that $M_{+} \subset B(H_{+})$ is a reflexive algebra of operators, that is, it is completely determined by its invariant subspaces. Examples include the algebra of analytic Toeplitz operators, w^{*}-crossed products, reduced w^{*}-semicrossed products and some reflexive nest subalgebras of von Neumann algebras. (Received December 23, 2013)