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Holomorphic almost periodic functions on coverings of complex manifolds

In the talk we establish a natural 'link' between two classical theories: Bohr's holomorphic almost periodic functions in tube domains in \mathbb{C}^n and von Neumann's almost periodic functions on topological groups—namely, we introduce and study holomorphic almost periodic functions on coverings of complex manifolds.

In particular, we discuss the following related results: a variant of 'holomorphic Peter–Weyl theorem', extension theorems from holomorphic almost periodic submanifolds, some results on structure of the maximal ideal spaces of certain subalgebras of bounded holomorphic almost-periodic functions and geometry of almost periodic analytic sets.

This is joint work with Alexander Brudnyi.