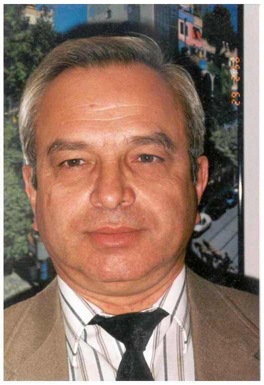

Thomas V. TONEV (ma_tt@selway.umt.edu), Department of Mathematical Sciences, University of Montana, Missoula, MT 59812-1032, USA ***Analytic functions on compact groups and applications to almost periodic functions.***

ABSTRACT. A continuous function f on the real line $\mathbf{R}$ is *almost periodic* if it can be approximated uniformly on $\mathbf{R}$ by *exponential polynomials* $\sum_{k=1}^{n} a_k e^{is_k x}$, where $a_k \in \mathbf{C}$, and $s_k \in \mathbf{R}$. Almost periodic functions were introduced by H. Bohr in the early 1920s in the course of his investigation on Dirichlet series of analytic functions. An unconventional approach to their study, due to Arens and Singer, is to include them in suitable uniform algebras. Let S be an additive subsemigroup of $[0,\infty)$, and $\Gamma = S - S$ is the subgroup of $\mathbf{R}$ generated by S. Denote by $AP_S(\mathbf{R})$ the space of almost periodic functions approximable on $\mathbf{R}$ by exponential polynomials with $s_k \in S$. The space $AP_S(\mathbf{R})$ is an uniform algebra isometrically isomorphic to the algebra A_S of analytic functions on a compact group with spectrum in S. We find explicit conditions on S under which every linear multiplicative functional of A_S can be extended as a linear multiplicative functional on a larger algebra of the same type A_Σ, with $S \subset \Sigma \subset [0,\infty)$.