1047-30-201    **Arthur A. Danielyan\*** (`adaniely@math.usf.edu`), Department of Mathematics and Statistics, University of South Florida, 4202 E. Fowler Avenue, PHY114, Tampa, FL 33620-5700. *Bounded approximation on open and closed subsets of the complex plane.*

Suppose $U$ is an open bounded set of the complex plane and $A$ is a set of bounded analytic functions on $U$. The problem of description of bounded analytic functions on $U$ which are limits of bounded sequences of functions in $A$ converging pointwise in $U$ has been investigated by Davie, Gamelin, Garnett, Rubel, Shields, and other mathematicians. In case $A$ is the set of all polynomials, the problem was solved by a classical theorem of Rubel and Shields. In this case one can assume that $U$ is the set of interior points of a compact set $K$ which does not separate the plane. A similar pointwise bounded approximation problem on the whole $K$ (including the boundary) has been considered in particular by Keldysh, Lavrentiev, and Mergelyan. The talk presents a new general approach for pointwise bounded approximations either on $U$ or on an arbitrary compact set, and in particular a (necessary and sufficient) description of approximable functions defined on $U$. (Received January 28, 2009)