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**Richard D. Carmichael\***, Wake Forest University, Winston-Salem, NC 27109, and **S. Pilipović**, University of Novi Sad, 21000 Novi Sad, Yugoslavia. *Generalizations of  $H^r$  functions and applications*. Preliminary report.

Analytic functions in tubes that generalize the Hardy  $H^r$  spaces are studied. The associated function  $M^*$  of Komatsu, which is defined with the aid of certain sequences of positive real numbers, is involved in the generalizing bound of the  $L^r$  norm. Fourier-Laplace and Cauchy integral representations are obtained for these functions. These representations can be used to obtain ultradistributional boundary value results of analytic functions. Problems for future research are considered. (Received September 19, 2000)