

**Meeting:** 1003, Atlanta, Georgia, SS 27A, AMS-SIAM Special Session on Analysis and Applications in Nonlinear Partial Differential Equations, I

1003-31-1175      **Rene Erlin Castillo\*** ([rcastill@math.ohiou.edu](mailto:rcastill@math.ohiou.edu)), Ohio University, department of mathematics, Morton 321, Athens, OH 45701. *Generalized Nonautonomous Kato Classes and Nonlinear Bessel Potentials.*

We study the scale of functions spaces  $M_p$  defined on  $\mathbb{R}^n$  introduced by Zamboni. For these spaces, we get a characterization in terms of nonlinear potentials. This result is based on a known characterization of the Kato class  $K_{n,s}$  of order  $s$  in terms of Bessel potentials and the space of bounded uniformly continuous functions. (Received October 04, 2004)