

**Meeting:** 1005, Newark, Delaware, SS 4A, Special Session on Asymptotic Behavior of Evolution Equations

1005-34-21            **Thomas I. Seidman\*** ([seidman@math.umbc.edu](mailto:seidman@math.umbc.edu)), Department of Mathematics and Statistics,  
University of Maryland Baltimore County, Baltimore, MD 21250. *Existence of solutions for ODEs  
in Banach spaces with discontinuous nonlinearities.*

In considering the ODE: (1)  $\dot{x} = Ax + f(x)$  where  $A$  generates a  $C_0$  semigroup and  $f$  is a ‘rough’ nonlinearity, we show that the hypothesis (H) There is some compact convex set  $\Phi$  of uniformly Lipschitzian functions such that  $f(\xi) \in \{\phi(\xi) : \phi \in \Phi\}$  for a dense set of  $\xi$  is sufficient to ensure the existence of solutions in a suitable sense, related to that of Filippov for finite-dimensional equations with discontinuous right hand side. (Received January 02, 2005)