ANALELE ŞTIINŢIFICE ALE UNIVERSITĂŢII "AL.I. CUZA" DIN IAŞI (S.N.)
MATEMATICĂ, Tomul LXI, 2015, f.1

VIABILITY OF A TIME DEPENDENT CLOSED SET WITH RESPECT TO A SEMILINEAR DELAY EVOLUTION INCLUSION*

BY

MIHAI NECULA and MARIUS POPESCU

Abstract. We prove a sufficient condition for a time-dependent closed set to be viable with respect to a delay evolution inclusion governed by a strongly-weakly u.s.c. perturbation of an infinitesimal generator of a C_0-semigroup. This condition is expressed in terms of a natural concept involving tangent sets, generalizing tangent vectors in the sense of Bouligand and Severi.

Mathematics Subject Classification 2010: 34K09, 34G25, 34A60, 47D06.

Key words: differential delay evolution inclusion, locally closed graph, tangent set, tangency condition, multi-valued mapping, viability.

*Supported by a grant of the Romanian National Authority for Scientific Research, CNCS–UEFISCDI, project number PN-II-ID-PCE-2011-3-0052.