MATHEMATICA, Tome 50 (73), N° 2, 2008, pp. 169–176

VARIATIONAL INCLUSIONS FOR A NONCONVEX SECOND-ORDER DIFFERENTIAL INCLUSION

AURELIAN CERNEA

Abstract. We establish several variational inclusions for mild solutions of a nonconvex second-order differential inclusion on a separable Banach space.

MSC 2000. 34A60.
Key words. Cosine family of operators, mild solution, tangent cone.

REFERENCES

[1] Aubin, J.P. and Frankowska, H., *Set-valued Analysis*, Birkhauser, Basel, 1990.
[2] Cernea, A. *Some Filippov type theorems for mild solutions of a nonconvex second-order differential inclusion*, Revue Roumaine Math. Pures Appl., to appear.
[3] Dunford, N. S. and Schwartz, J. T., *Linear Operator Part I. General Theory*, Wiley Interscience, New York, 1958.
[4] Fattorini, O., *Second-order linear differential equations in Banach spaces*, Mathematical Studies vol. 108, North Holland, Amsterdam, 1985.
[5] Filippov, A. F., *Classical solutions of differential equations with multivalued right-hand side*, SIAM J. Control Optim., **5** (1967), 609–621.
[6] Frankowska, H., *A Priori Estimates for Operational Differential Inclusions*, J. Diff. Equations., **84** (1990), 100–128.
[7] Travis, C. C. and Webb, G. F., *Cosine families and abstract nonlinear second-order differential equations*, Acta Math. Hungarica, **32** (1978), 75–96.

Received September 21, 2007

Faculty of Mathematics and Informatics
University of Bucharest
010014 Bucharest, Romania
E-mail: acernea@math.math.unibuc.ro