

EXTREMAL PERIODIC SOLUTIONS FOR SUBDIFFERENTIAL EVOLUTION INCLUSIONS

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Abstract. We examine nonlinear evolution inclusion driven by a subdifferential operator. Using techniques from the theory of nonlinear operators of monotone type and from multivalued analysis, we establish the existence of “extremal” periodic solutions which, we also show, are dense in the solution set of the convexified problem (i.e. the “strong relaxation theorem”). We also solve the “nonconvex, lower semi-continuous problem.” There examples of ordinary and parabolic partial differential inclusions illustrate the applicability of our results.

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