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EVOLUTION INCLUSIONS WITH STATE-DEPENDENT MAXIMAL MONOTONE OPERATORS

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The existence of an absolutely continuous solution of a differential inclusion whose right-hand side contains a time- and state-dependent maximal monotone operator and a nonconvex perturbation is proved in a Hilbert space. The proofs are based on our comparison theorems for inclusions with maximal monotone operators and a fixed point theorem for multivalued mappings. This approach allows us to extend the class of inclusions with maximal monotone operators for which existence theorems are valid and, as a result, to obtain significant results of this kind.

Keywords: maximal monotone operator, G-convergence, comparison theorem.

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