

A unified approach for p -Laplacian differential inclusions depending on a parameter

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Abstract: A unified approach was developed to investigate the existence of at least one smooth nontrivial solution for p -Laplacian differential inclusions with upper/lower semicontinuous set-valued righthand side and depending on a positive parameter. The main idea was to find a solution of the given inclusion as a solution of an auxiliary differential inclusion associated with the generalized gradient (in Clarke's sense) of a primitive of a selection of the multivalued nonlinearity. Since we also dealt with discontinuous selections, variational methods for non smooth functionals provided the right tools to achieve our goals.

References

- [1] G. Bonanno, P. Candito, F. Cianciaruso, P. Pietramala, *A unified approach for p -Laplacian differential inclusions depending on a parameter* Discrete Contin. Dyn. Syst. Ser. S 18 (2025), no. 2, 553–565.