Eigenvalue Problems With Fully Discontinuous Operators

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We introduce the notion of $\overrightarrow{\rho}$–multivoque Leray-Lions operator

$$Au = -\operatorname{div}_{\overrightarrow{\rho}} \left(\partial\Phi_i \left(x, \frac{\partial u}{\partial x_i} \right) \right), \qquad \overrightarrow{\rho} = (\rho_0, ..., \rho_N)$$

that are strongly monotonic on a Banach-Sobolev function space V and we study the generalized eigenvalue problem $Au = \lambda \partial_j(u)$. Here $\partial\Phi_i$ and ∂_j denote the subdifferential in the sense of convex analysis or more generally in the sense of H. Clarke.

References

[1] H. Chrayteh and J.-M. Rakotoson: *Eigenvalue problems with fully discontinuous operators and critical exponents*, Nonlinear Analysis, 2010.

[2] J.-M. Rakotoson: *Generalized eigenvalue problem for totally discontinuous operators*, Discrete and Continuous Dynamical Systems, 2010.

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