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## Continua of solutions and multiplicity for elliptic boundary value problems

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### Abstract :

We deal with some elliptic boundary value problems where a bifurcation result leads to multiplicity of solutions. We consider a bounded domain  $\Omega \subset \mathbb{R}^N$  ( $N \geq 3$ ) and different PDE in  $\Omega$  involving the Laplacian operator, Fractional Laplacian operators, Kirchhoff operators confronted with nonlinear terms depending on a real parameter.

From this point of view, we analyze some of the results recently obtained in [1], [2], [3], [4], [5].

### Références

- [1] Arcoya, D, Carmona, J. Martínez-Aparicio, P.J., Multiplicity of solutions for an elliptic Kirchhoff equation. Milan Journal of Mathematics, DOI : 10.1007/s00032-022-00365-y.
- [2] Carmona, J., Colorado, E., Leonori, T., Ortega, A. - Semilinear fractional elliptic problems with mixed Dirichlet-Neumann boundary conditions, Fractional Calculus and Applied Analysis 23-4 (2020), 1208 - 1239.
- [3] J. Carmona and R. Fiñana, Existence, nonexistence and multiplicity of bounded solutions to a nonlinear BVP associated to the fractional Laplacian. Preprint 2022.
- [4] J. Carmona, S. López-Martínez and P. J. Martínez-Aparicio, A priori estimates for non-coercive Dirichlet problems with subquadratic gradient terms. Preprint 2022.
- [5] J. Carmona and A. Molino, Uniqueness of trivial solutions to the Dirichlet problem for the fractional Laplacian. Preprint 2022.