A pseudo–index approach to fractional equations

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We study the multiplicity of weak solutions of the quasilinear elliptic problem

\[
\begin{cases}
-\Delta_p u = g(x, u) & \text{in } \Omega \\
u = 0 & \text{on } \partial\Omega
\end{cases}
\]

where \( 1 < p < +\infty \), \( \Delta_p u = \text{div}(\nabla |u|^{p-2}u) \), \( \Omega \) is an open bounded domain of \( \mathbb{R}^N \) with smooth boundary \( \partial\Omega \) and \( g \) behaves as \( |u|^{p-2}u \) at infinity. Both the non–resonant and the resonant case are analyzed. Furthermore, we consider an analogous problem for the fractional \( p \)–Laplacian and on \( \mathbb{R}^N \).

References


