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Minimax Theory and its Applications 02 (2017) 009–025

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**Multiple Solutions for a Class of Schrödinger Equations Involving the  
Fractional  $p$ -Laplacian**

We deal with the multiplicity of weak solutions of the non-local elliptic equation

$$(-\Delta)_p^s u + V(x) |u|^{p-2} u = g(x, u)$$

in  $\mathbb{R}^N$ , where  $(-\Delta)_p^s$  is the so-called fractional  $p$ -Laplacian,  $V$  is a suitable continuous potential and the nonlinearity  $g$  grows as  $|u|^{p-2} u$  at infinity. Our results extend the classical local counterpart, that is when  $s = 1$ .

**Keywords:** Fractional  $p$ -Laplacian, integro-differential operator, variational methods, asymptotically linear problem, resonant problem, pseudo-genus.

**MSC:** 49J35, 35S15, 58E05; 47J20, 35R11, 35J10, 46E35