

ICRAMCS 2026

THE EIGHTH EDITION OF THE INTERNATIONAL CONFERENCE ON
RESEARCH IN APPLIED MATHEMATICS AND COMPUTER SCIENCE
April 23-24-25, 2026 | Marrakech, Morocco



Ground state solution for a critical Schrodinger equation involving the fractional p-Laplacian

Communication Info

Authors:

Zakaria ZAIMI^{1,2}
Khalid Bouabid¹
Rachid ECHARGHAOUI¹

¹ Department of Mathematics,
Faculty of Sciences, Ibn Tofail
University, Kenitra B. P. 133,
Morocco.

² CRMEF-RSK, EREAM Team,
LaREAMI-Lab Department of
Mathematics, Kenitra, Morocco

Keywords:

- (1) Berestycki-Lions theorem.
- (2) Schrodinger equation.
- (3) Ground state solution.
- (4) Fractional p-Laplacian.

Abstract

In this paper, our aim is to establish a generalized version of Berestycki-Lions theorem about the fractional p-Laplacian operator. As an application of this theorem, we consider the existence of ground state solution to the critical Schrödinger equation with potential term.

© ICRAMCS 2026 Proceedings ISSN: 2605-7700

References

- [1] Berestycki, H., Lions, P.: Nonlinear scalar field equations, I. Existence of a ground state, Arch. Ration. Mech. Anal. 82 (4), 313-345 (1983).
- [2] Echarghaoui, R. and Zaimi, Z.: Ground state solution for a critical Schrodinger equation involving the p-Laplacian operator and potential term. J. Elliptic Parabol. Equ., 10(1), 475-497 (2024).
- [3] Feng, Z., Su, Y.: Lions-Type Properties for the p-Laplacian and Applications to Quasilinear Elliptic Equations. J. Geom. Anal., 33(3), 1-32 (2023).