National Institute of Technology Rourkela

Progress Seminar

Seminar Title	: Existence of nontrivial weak solutions for a class of elliptic problem.
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Supervisor	: Prof. Shesadev Pradhan
Venue	: Department Seminar Hall
Date and Time	: 29 Jan 2025 (11AM)
Abstract	: Elliptic partial differential equations have applications in various fields in science and engineering such as like Elasticity, Electrorheological fluids, Image Processing etc. This seminar focuses on discussing the existence of solutions for a class of p & q elliptic problem. We will study a quasilinear problem with two different kinds of discontinuous nonlinearity. By applying the critical point theory for nondifferentiable functionals, we will prove that our problem has at least one nontrivial weak solution for any value of positive parameters associated with the problem. We produced new results when one of the nonlinearities satisfied the Ambrosetti-Rabinowitz (AR) condition.

Keywords: Variational method, Discontinuous nonlinearity, Critical exponent, Quasilinear elliptic equations