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Existence and Concentration of Solutions for a Class of Elliptic Partial Differential Equations Involving p-Biharmonic Operator

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Abstract : The perturbed nonlinear Schrodinger equation involving the p-biharmonic and the p-Laplacian operators involving a real valued parameter and a continuous real valued potential function defined over the N- dimensional Euclidean space has been considered. By the variational technique, an existence result pertaining to a nontrivial solution to this non-linear partial differential equation has been proposed. Further, by the Concentration lemma, the concentration of solutions to the same problem defined on the set consisting of those elements where the potential function vanishes as the real parameter approaches to infinity has been addressed.

Keywords : p-Laplacian, p-biharmonic, elliptic PDEs, Concentration lemma, Sobolev space
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