

REVIEWER'S REPORT

Manuscript No.: IJAR-50538

Date: 07-03-2025

Title: Shape and Topological Optimization of a Nonlinear Elliptical Problem

Recommendation:

Accept as it is.....**YES**.....
 Accept after minor revision.....
 Accept after major revision
 Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality	√			
Techn. Quality		√		
Clarity		√		
Significance			√	

Reviewer's Name: Mir Tanveer

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

Strengths:

1. Clear Research Focus

- The paper clearly defines its objectives, including proving the existence of optimal shapes, deriving shape derivatives via the Lagrange method, and obtaining topological derivatives using the minmax method.
- The mathematical framework provides a structured theoretical basis.

2. Use of Established Mathematical Tools

- The ε -cone property is introduced as a method to ensure the existence of solutions.
- The Lagrange and minmax methods are applied for deriving shape and topological derivatives.

3. Logical Organization

- The structure follows a logical flow from problem definition to proofs and mathematical results.
- The paper integrates multiple approaches to shape and topological optimization.

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

www.journalijar.com

REVIEWER'S REPORT

Observations:

1. Clarity and Language

- The paper contains grammatical and syntactical inconsistencies.
- Some sentences are structured in a way that affects readability.

2. Notational Consistency

- Some equations lack formatting uniformity.
- Equation numbering appears inconsistent in places.

3. Explanations of Theorems and Lemmas

- Some justifications in proofs are not fully elaborated.
- The ε -cone property is mentioned, but additional explanations could enhance understanding.

4. Repetition and Structural Aspects

- Some sections repeat, particularly in the introduction.
- The structure of some sentences presents redundancy.