

# **LEVEL SET-BASED TOPOLOGY OPTIMIZATION FOR THE STRUCTURAL DESIGNS OF NEW DEVICES AND MATERIALS**

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**Keywords:** *Maximum 7 Words, Times New Roman, Font Size 10, Italic*

## **Abstract**

Topology optimization is the most flexible type of structural optimization because topological changes as well as shape changes are allowed, and it provides high performance structures and has the potential to implement new structural functions. In this presentation, a new type of topology optimization method that represents the boundaries of a target structure using a piecewise constant type of level set function is introduced. Next, several design examples for the high performance or new function implemented devices and the materials are provided to confirm the availability and utility of our proposed method.