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A Deep Learning Approach for Optimum Shape Design

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Abstract : Artificial intelligence has brought new approaches to solving problems in almost every research field in recent years. One of these topics is shape design and optimization, which has the possibility of applications in many fields, such as nanotechnology and electronics. A properly constructed cost function can eliminate the need for labeled data required in deep learning and create desired shapes. In this work, the network parameters are optimized differentially, which differs from traditional approaches. The methods are tested for physics-related structures and successful results are obtained. This work is supported by Eskişehir Technical University scientific research project (Project No: 20ADP090)
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