Topology optimization approaches: A comparative review

Topology optimization has undergone a tremendous development since its introduction in the seminal paper by Bendsøe and Kikuchi in 1988. By now, the concept is developing in many different directions, including "density", "level set", "topological derivative", "phase field", "evolutionary" and several others. The paper gives an overview, comparison and critical review of the different approaches, their strengths, weaknesses, similarities and dissimilarities and suggests guidelines for future research.

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Contributors: Sigmund, O., Maute, K.
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