

AN EXPECTED COMPLIANCE MODEL BASED ON TOPOLOGY OPTIMIZATION FOR DESIGNING STRUCTURES SUBMITTED TO RANDOM LOADS

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Abstract. In this paper, we focus in developing a stochastic model for topology optimization. The principal objective of such a model is to find robust structures for a given main load having a stochastic behavior. In the first part, we present the expected compliance formulation and some results in topology optimization. Then, in order to illustrate the interest of our approach, we consider a preliminary 3D cantilever benchmark experiment and compare the obtained results with the one given by a single load approach.

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