**Benha University**
**Shoubra Faculty of Engineering**
**Mechanical Engineering Department**

# MODELING AND SIMULATION OF THE STATIC AND DYNAMIC PERFORMANCE OF SANDWICH BEAMS

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# Abstract

The main objectives of the present work are modeling and simulation of the static and dynamic performances of sandwich beam through investigate the effect of different design variables such as faces thickness, faces material, core thickness, sandwich beam width and sandwich beam length.

Controlling the performance of the sandwich beam was investigated where it was under experimental design using response surface methodology. The (RSM) is the process of adjusting design variables to move the response in a desired direction and, iteratively, to an optimum. The (RSM) shows that the frequency response of the cantilever sandwich beam can be varied from (4.8 to 100%) from the maximum possible frequency using different sandwich beam variables respecting to the required application.