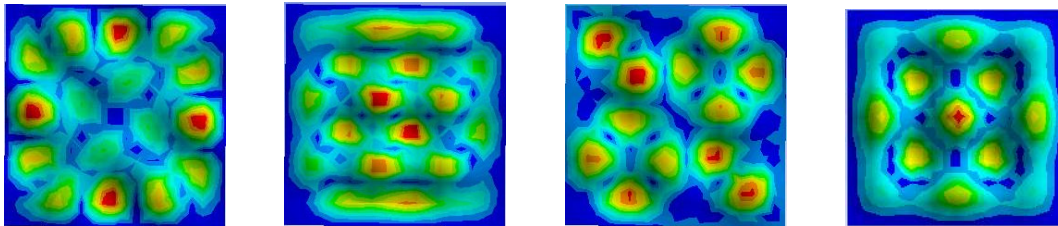


Project Proposal Numerical Linear / Nonlinear Analysis of a Jointed Plate

Joints based on friction (rivet/Bolt) are extensively used in aircraft assembly process for joining primary or secondary structural components; therefore a good modelling of such joints is of a great importance for accurate static and dynamic behaviour prediction.

In this project, briefly, a variation of classical and non-classical boundary condition of a plate will be investigated. In the same time, while the numerical research is carried out, the experimental work should be done by another experiment project.

This work is expected to be done using available commercial numerical package such as ANSYS, NASTRAN.



• Scope of the work

- The experiment fixture has to be modelled and analyzed using available Packages.
- The plate has to be analysed using a variational of classical and non-classical boundary conditions such as frictional, flexible support, and inertia ...

• Expected results

Upon executing the above specified tasks, the expected results are:

- Verifying the functionality of the fixture.
- The mode shape and the natural frequencies of the specimen (plate) which should be compared with others experimental and theoretical results.
- The effects of joint parameters on the overall static and dynamic behaviour of an aerospace structure.

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