DELAMINATION AND INTERLAMINAR FRACTURE TOUGHNESS OF LAMINATE COMPOSITES

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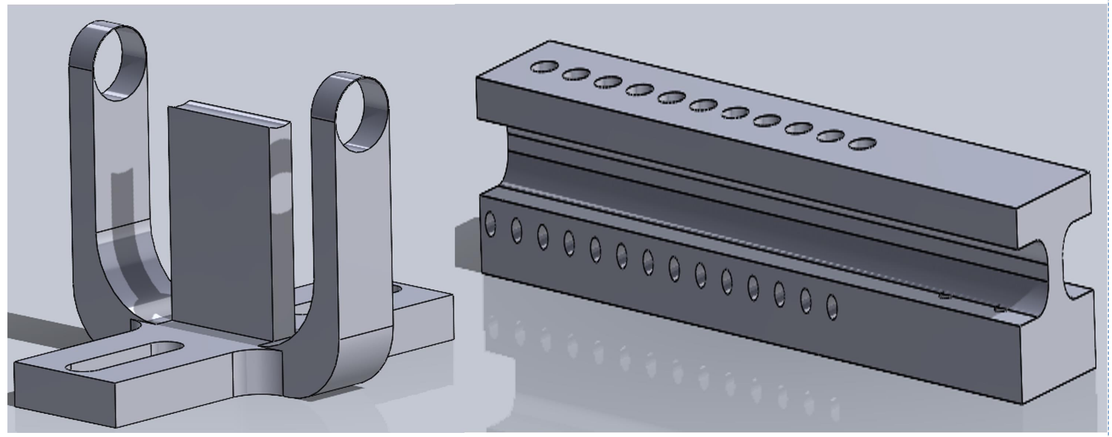
Research questions: How to reduce the geometric nonlinearities in laminar composites? How does this affect strain energy release rates? How does increasing the stiffness of the testing specimen affect the effect of geometric nonlinearities? How to improve the Reinforced Mixed-Mode Bending test to accommodate Mode III Bending?

Literature review:

- Common specimen materials – Epoxy resin, Al 7075-T651 and polymethyl methacrylate
- Standard ASTM D6671/D6671M-06
- Next steps:
- FEA simulation and in-lab testing

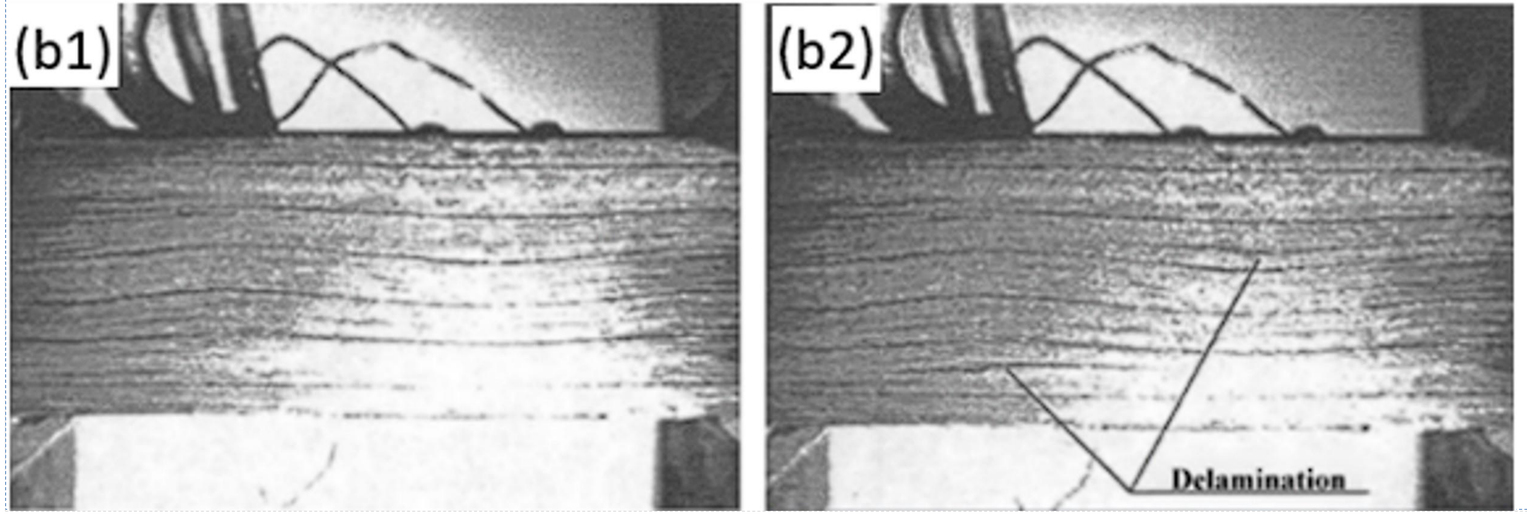
Research methods:

- Literature review
- Designing of fixture parts using SolidWorks
- FEA analysis using ANSYS
- Lab testing of 3D parts



Roller and lever from fixture

Suriani et al. (2021)



Saddle and yoke from fixture