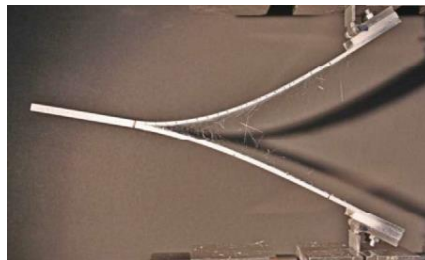
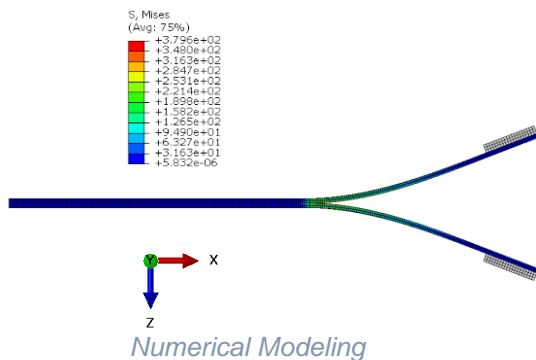


## Delamination analysis of thin-ply laminates under fatigue loading.

### Background:

The delamination of fiber-reinforced polymers (FRPs) is a very complicated phenomenon especially under dynamic loading and it is a decisive reason for conservative design practices in the aerospace and wind energy industries. Delamination is the separation of two laminar, which seems to be a straightforward process but possesses several challenges that make it hard to tackle. Firstly, it can reduce the strength of the structure. Secondly, it is hard to inspect.

To study delamination in thin-ply laminates (of carbon epoxy), static and dynamic experimental campaigns are planned. The focus of the static campaign is material characterization, validation, and acoustic emission. Whereas, the focus of the dynamic campaign is verification and validation of the delamination model under cyclic loading.



Specimen



Experimental testing

### Tasks/Work program:

- Literature review.
- Programming with python/matlab.
- Support in experimentation.
- Discussion of results.
- Written elaboration and Presentation.

The work is carried out at the Institute of Structural Analysis, Leibniz Universität Hannover.

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