

Accepted Manuscript

Experimental and numerical investigation on mechanical behaviors of woven fabric composites under off-axial loading

Liang Wang , Bo Zhao , Jiayi Wu , Chuanyong Chen , Kun Zhou

PII: S0020-7403(17)33548-8
DOI: [10.1016/j.ijmecsci.2018.03.030](https://doi.org/10.1016/j.ijmecsci.2018.03.030)
Reference: MS 4240



To appear in: *International Journal of Mechanical Sciences*

Received date: 12 December 2017
Revised date: 25 February 2018
Accepted date: 24 March 2018

Please cite this article as: Liang Wang , Bo Zhao , Jiayi Wu , Chuanyong Chen , Kun Zhou , Experimental and numerical investigation on mechanical behaviors of woven fabric composites under off-axial loading, *International Journal of Mechanical Sciences* (2018), doi: [10.1016/j.ijmecsci.2018.03.030](https://doi.org/10.1016/j.ijmecsci.2018.03.030)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlight

- A realistic mesoscale finite element model was developed based on microscopic observation of the woven architecture.
- A combined elastoplastic damage model was developed for precisely modelling mechanical behaviors of the matrix.
- The stiffness and strength reduce dramatically with the increase of off-axial angles.
- Off-axial failures are caused by the combined effects of fiber tow tensile/compression and shear.

Download English Version:

<https://daneshyari.com/en/article/7173733>

Download Persian Version:

<https://daneshyari.com/article/7173733>

[Daneshyari.com](https://daneshyari.com)