Probabilistic Micromechanics

of

the Fibrous Assembly.

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Progress has been made in defining the mechanical properties of a fibrous assembly.

The anisotropic properties of a fibrous assembly has been interpreted by the compliances of it. The independency has been discussed but the derivation of them is not accurate yet.

This paper describes the method of probabilistic micromechanics of the fibrous assembly in deriving the compliances of it.

Orientation, curvature, torsion, length, and diameter density functions of the fibre segments in the fibrous assembly are introduced. Some results of the orientation and length density functions on the compressional properties of the random fiber assembly are discussed.