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Viscoelastic shear lag model to predict the micromechanical behavior of tendon under dynamic tensile loading

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Highlights

- We explain why the regularly staggering alignment microstructure is frequently selected in natural biological tissues.
- We explore the basic design principles by using the concept of biological tissues.
- The molecular mechanism of tendon rupture can be obtained.
- We give an explicit explanation of why the creep of tendon will cause tendinopathy.
- The failure of tendon is sensitive to loading rate.

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