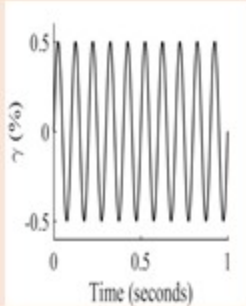


A. Problem Statement



Repeated loading

Fatigue cracking

B. Laboratory characterization of fatigue

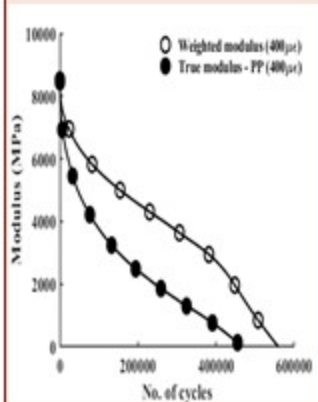
Commonly used test protocols

Binders

- Time Sweep test
- Linear amplitude sweep test

Mixtures

- Four-point beam fatigue tests (4PB)
- Uniaxial fatigue tests

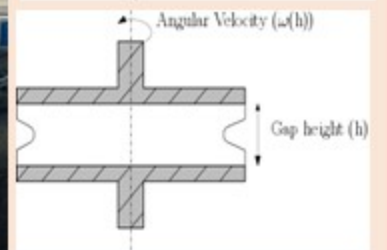
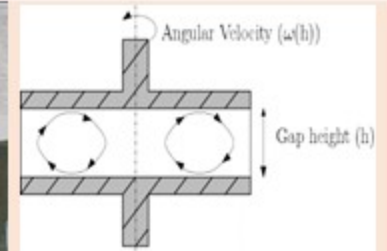


Reduction in modulus



Prediction of fatigue life

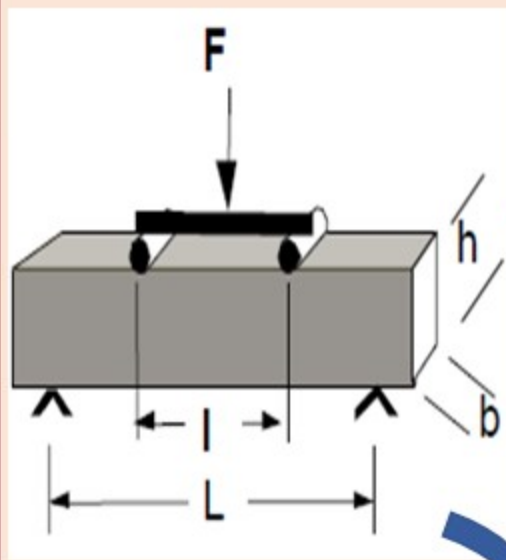
C. Issues with binder test protocol



Dynamic shear rheometer → Parallel plate geometry

Instabilities and secondary flows

D. Stiffness calculation in 4PB test?



True modulus?

Weighted modulus

