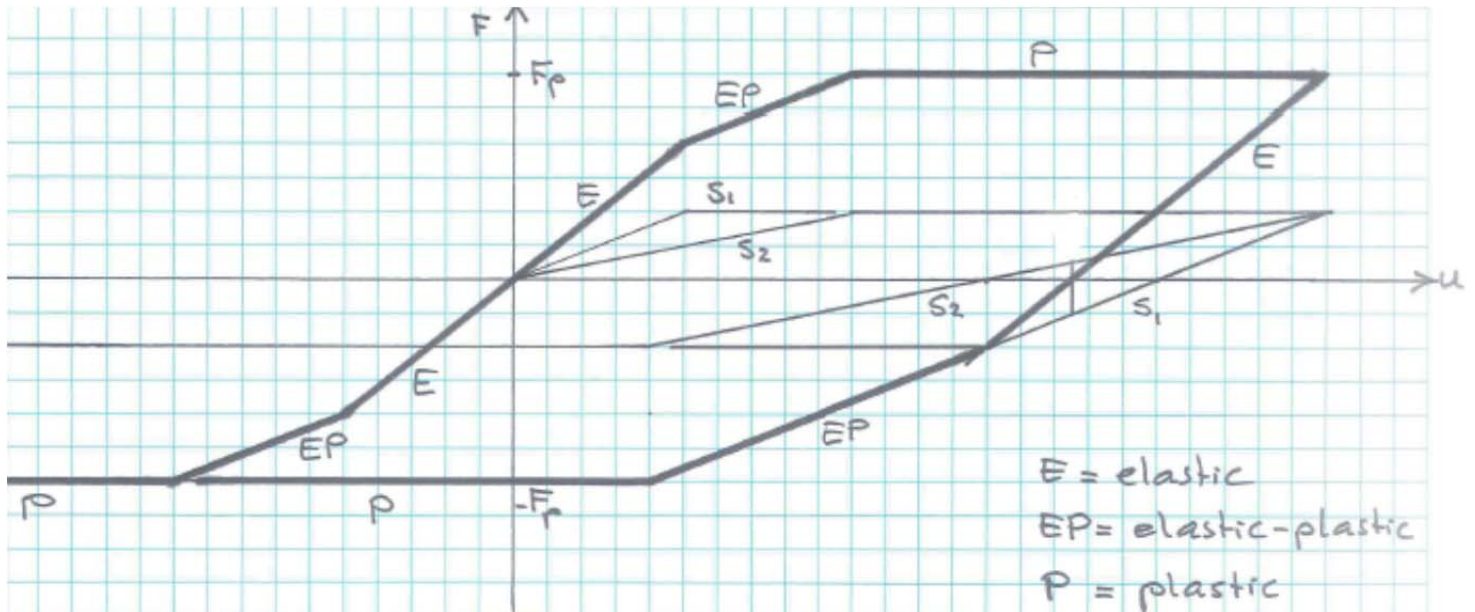


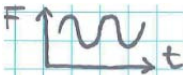
Simple bar structure (reader 1, p. 7)



Plastic phenomena

1. Unloading has the same stiffness as initial loading
2. After removing the load there are residual stresses
3. Yielding does not change the length of the elastic part (Bauschinger effect)

Consequence

A dynamic load  causes a stress range .

The stress range computed with a linear elastic model is the same as the stress range computed with a plastic model. Therefore, fatigue checking relies on linear elastic analyses only.