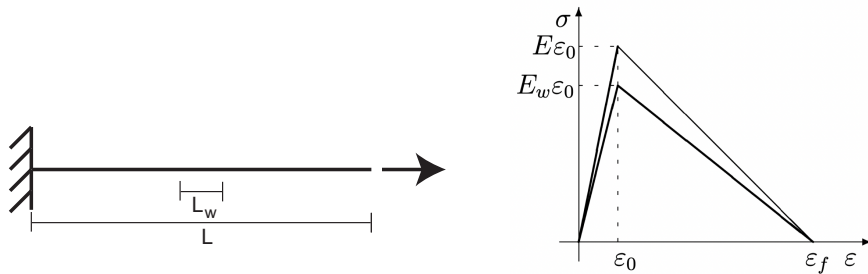


## Damage mechanics

### Gradient-enhanced non-local damage models (4 of 7)

#### One-dimensional tensile test



Central part of bar is weaker ( $E_w < E$ ) to locate damage initiation

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1. Run the text (main file: UniaxialTest.m) with the parameters given.
2. Explore the incremental-iterative solver (file NewtonRaphson.m). Identify the outer loop in load-steps and the inner loop in iterations.
3. Confirm mesh objectivity by running the test with different meshes.
4. Explore the influence of characteristic length in the mechanical response.
5. Replace the central “interface” (i.e. weaker part) by two interfaces at  $L/3$  and  $2L/3$ .
6. Explore the effect of a different modulus  $E_w$  at each interface.