

# Modelli numerici elasto-plastici

## Hardening isotropo e cinematico

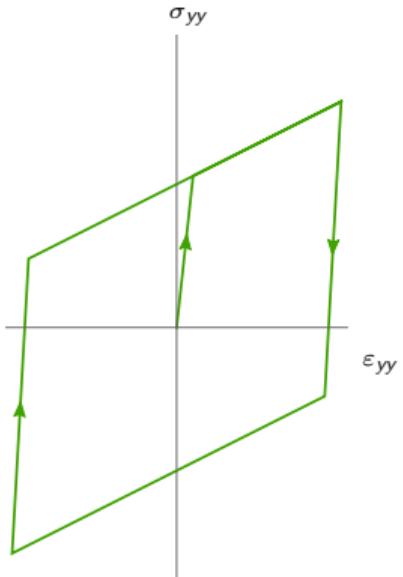
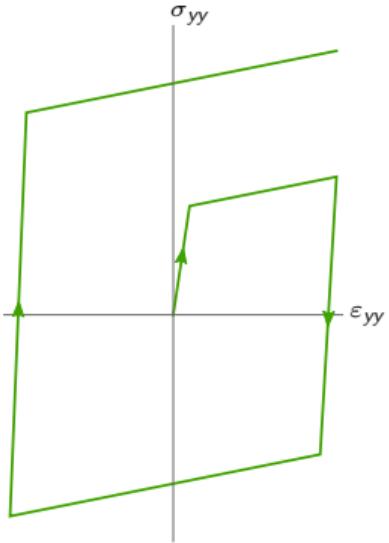
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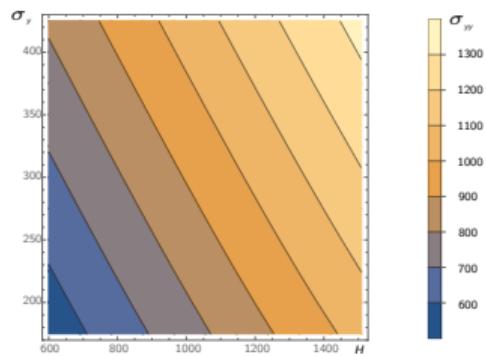
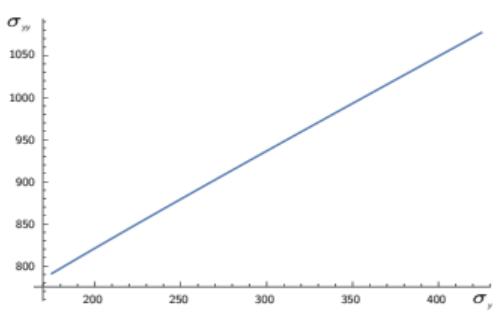
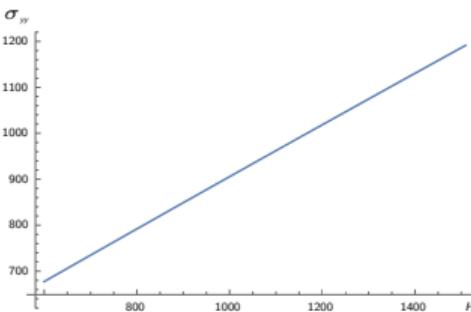
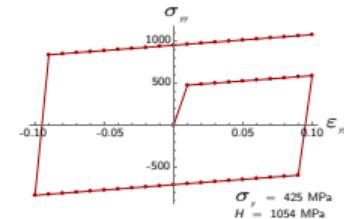
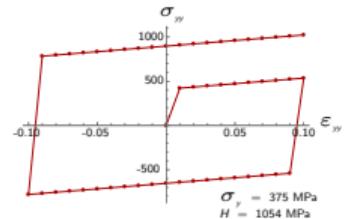
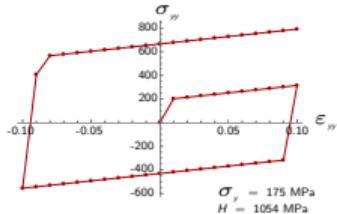
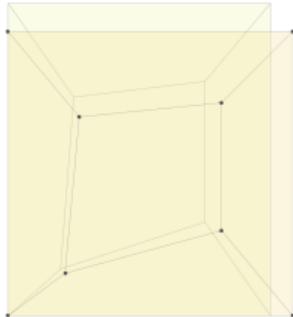
# Structural behaviour

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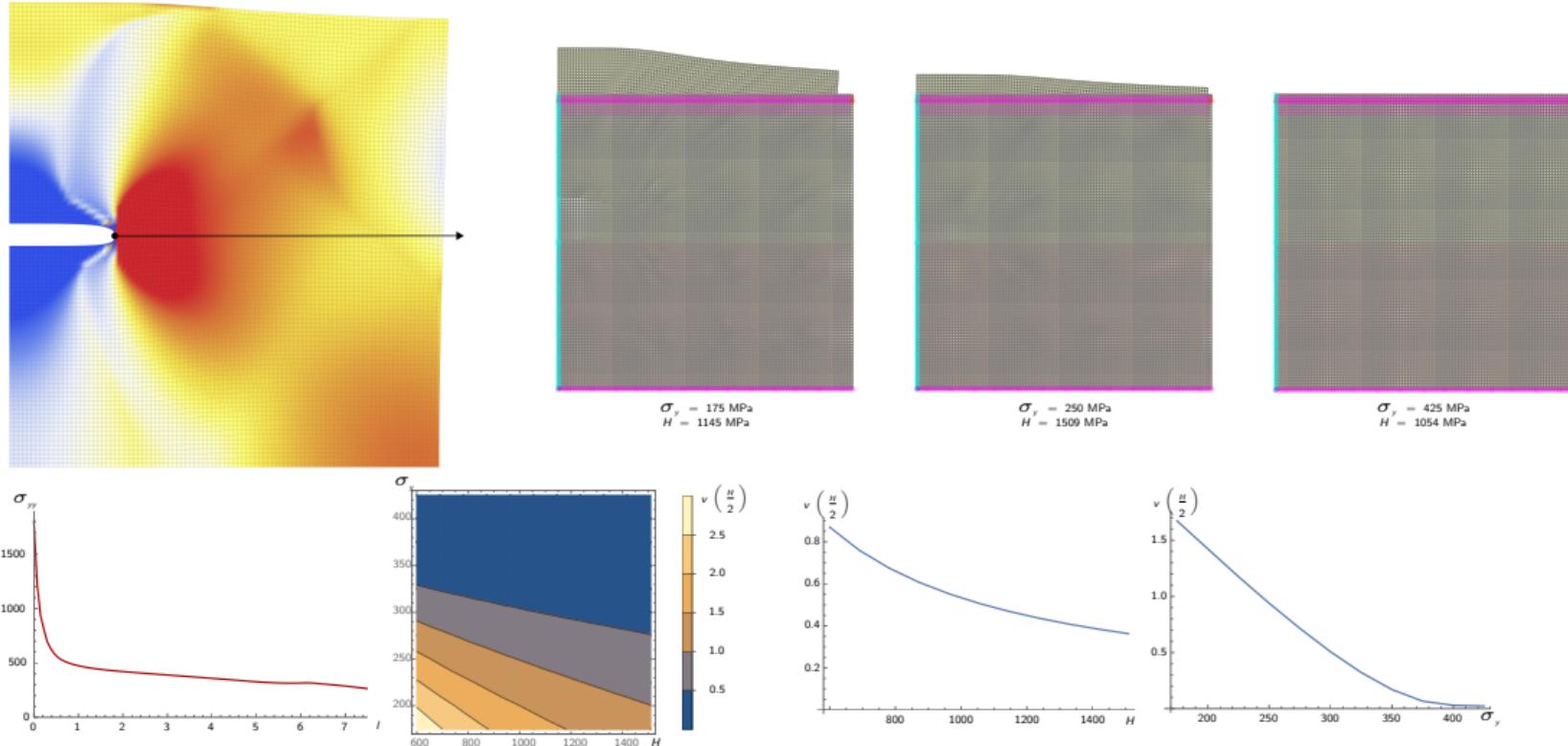


$\sigma_y$ (MPa)	$\sigma_u$ (MPa)	$\varepsilon_u$ (%)
175	500	45
190	600	45
280	680	35
450	700	25
345	517	25
276	517	30
414	274	20
276	759	60

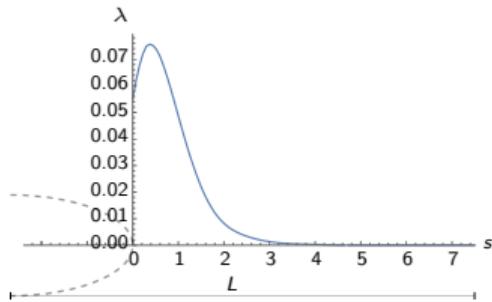
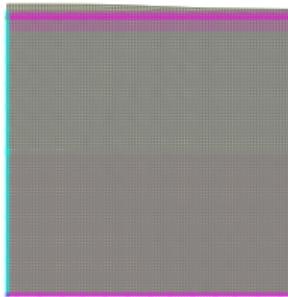
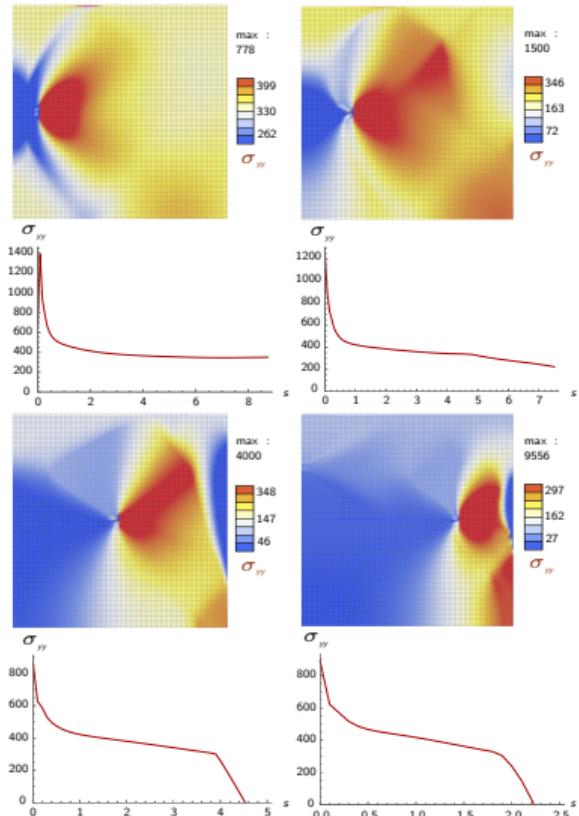
# Patch test



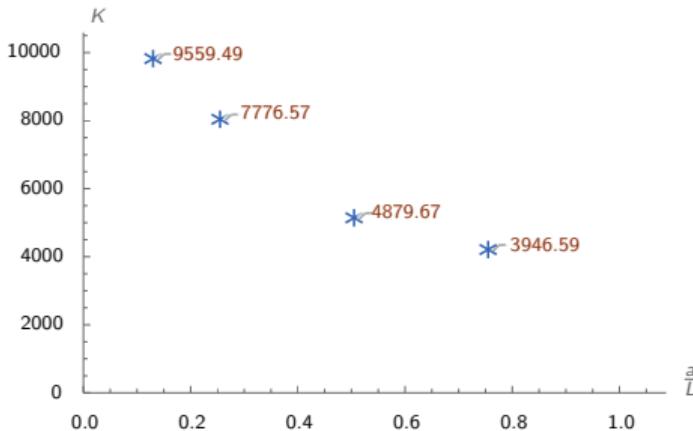
# Crack plate



# Stress intensity factor



$$K = \sqrt{\frac{\pi r_p (\sigma_y)^2}{(1-2\nu)}}$$



# Isotropic and kinematic hardening

