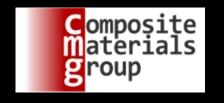
The effect of transverse cracking on longitudinal tensile strength

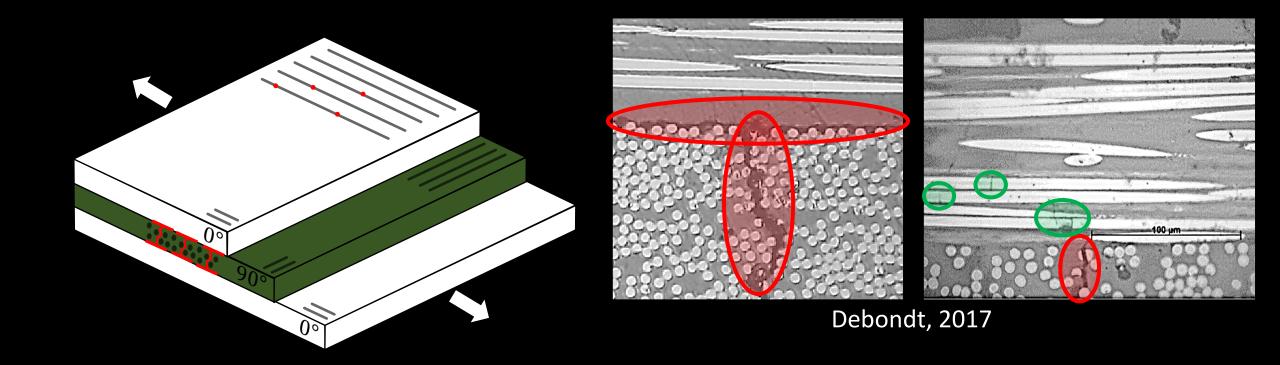
Yentl Swolfs, Arsen Melnikov, Larissa Gorbatikh, Stepan Lomov



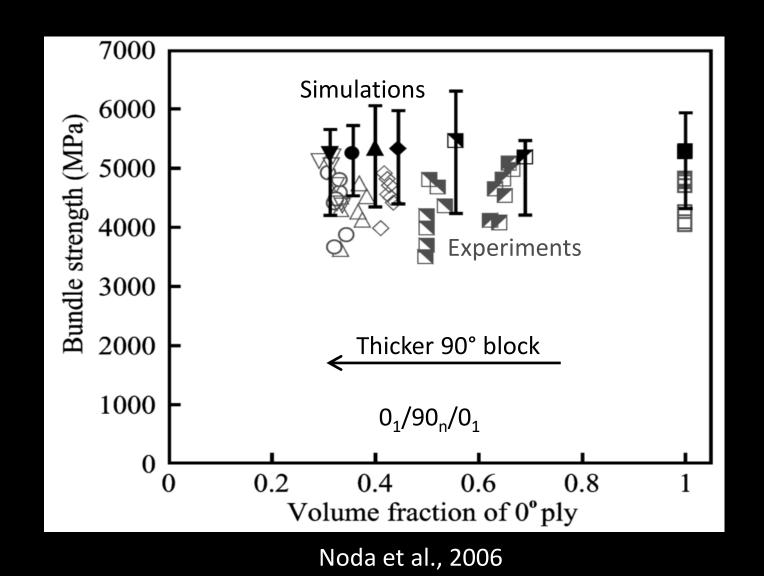




Damage development in cross-ply laminates

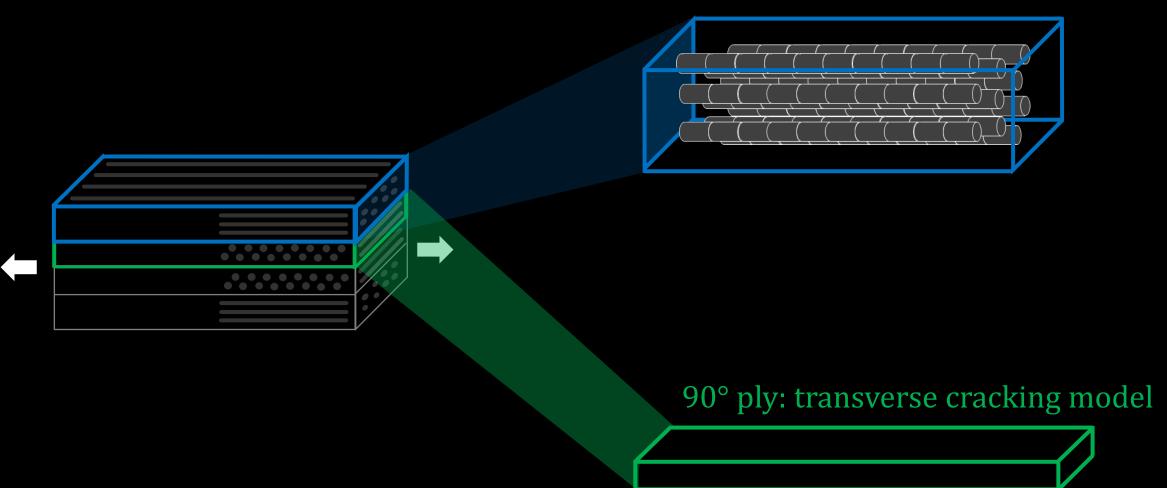


Tensile strength of cross-ply laminates

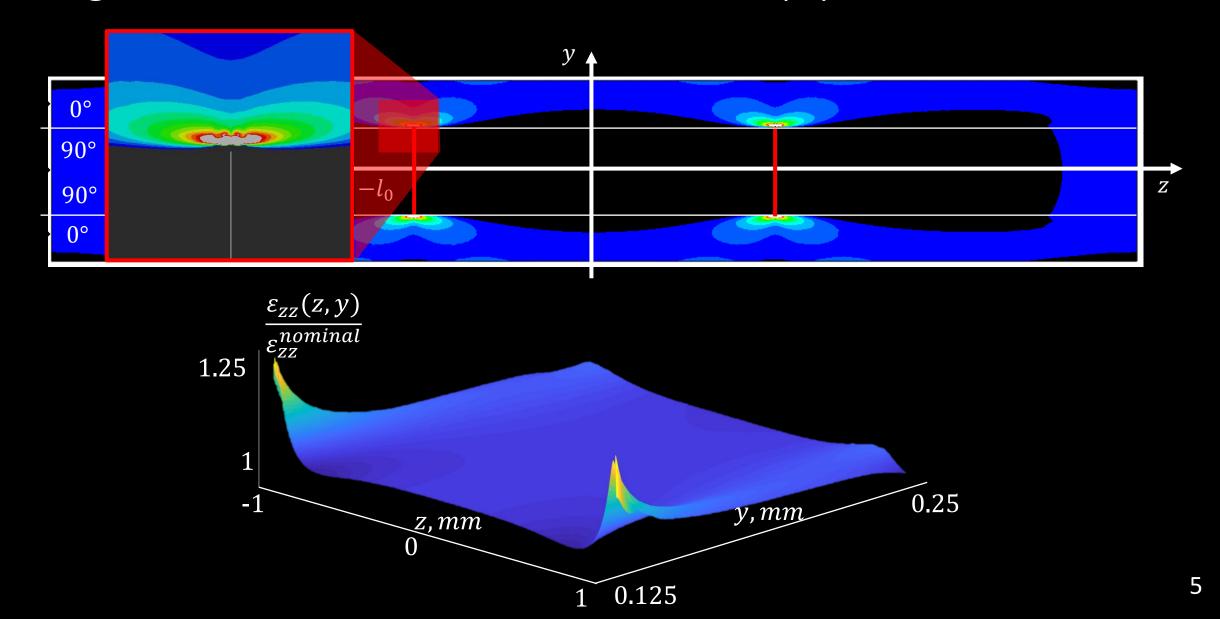


Basic concept of cross-ply fibre break model

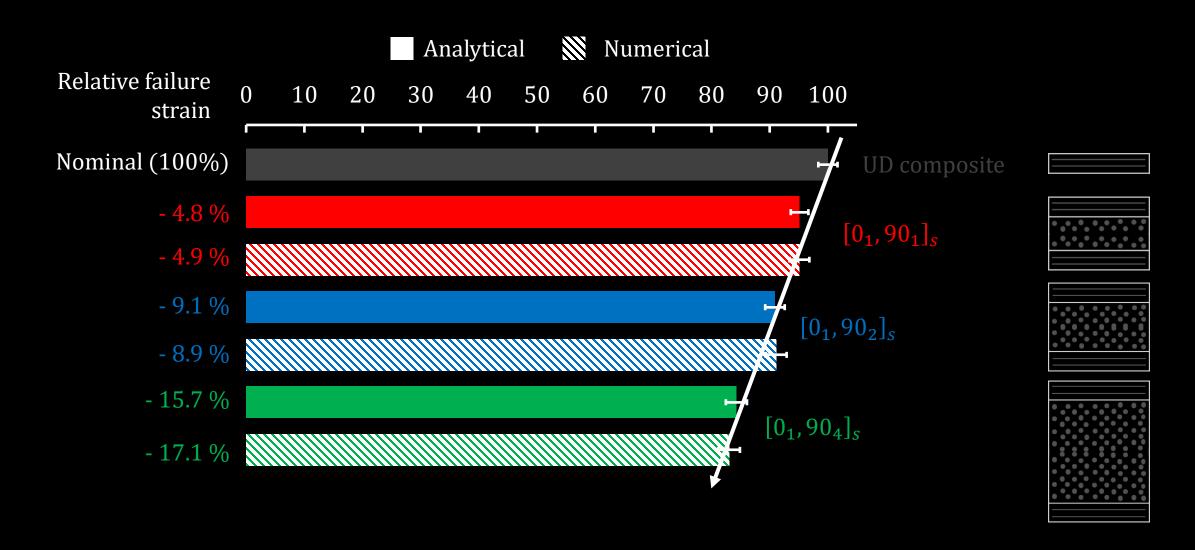
0° ply: fibre break model



Longitudinal stress concentrations in 0° ply



Predicted failure strain reduction



Open questions

Delaminations around transverse crack tips?

45° instead of 90° cracks?

Larger stiffness degradation

Not concentrated in one cross-section