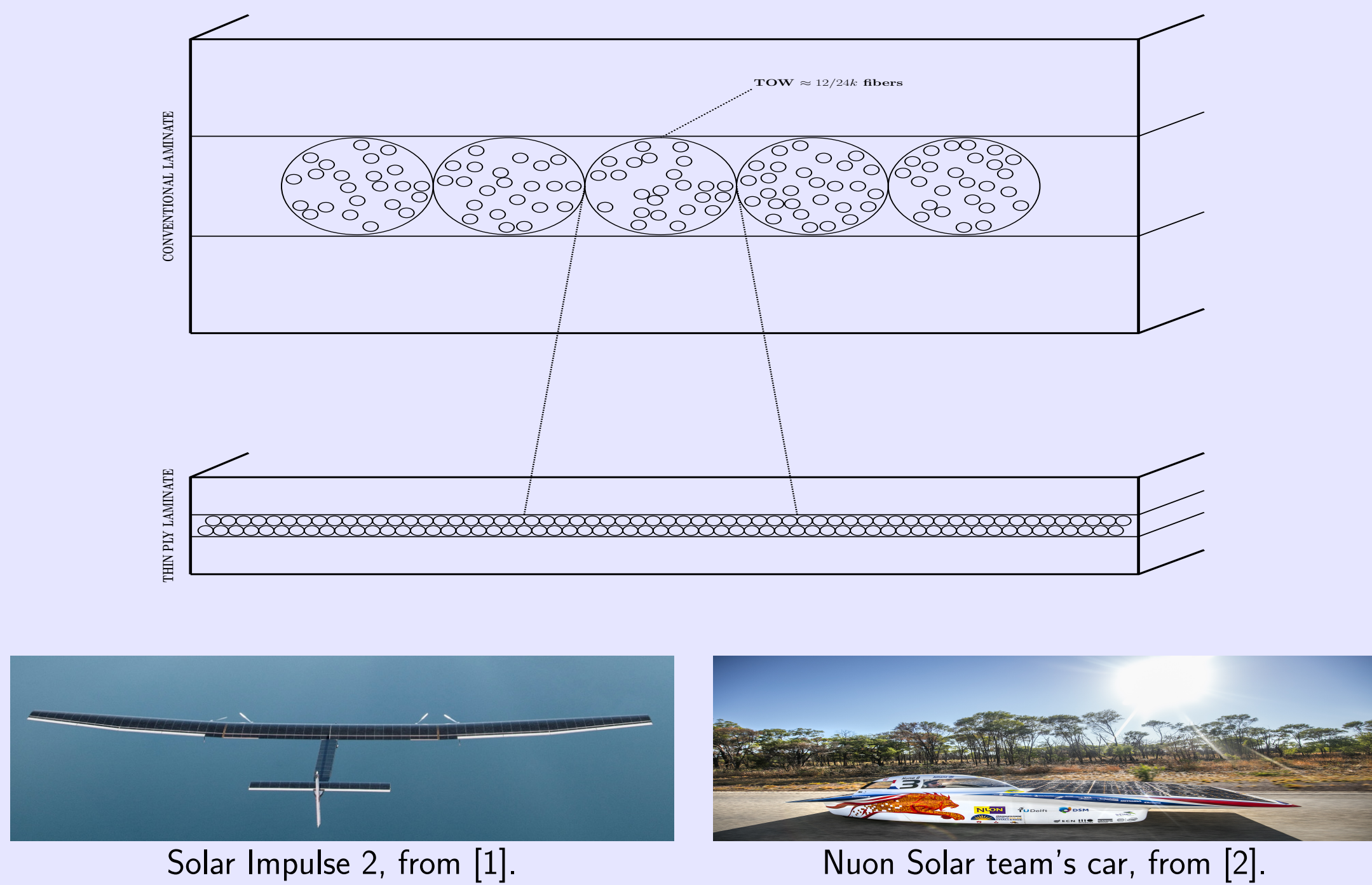


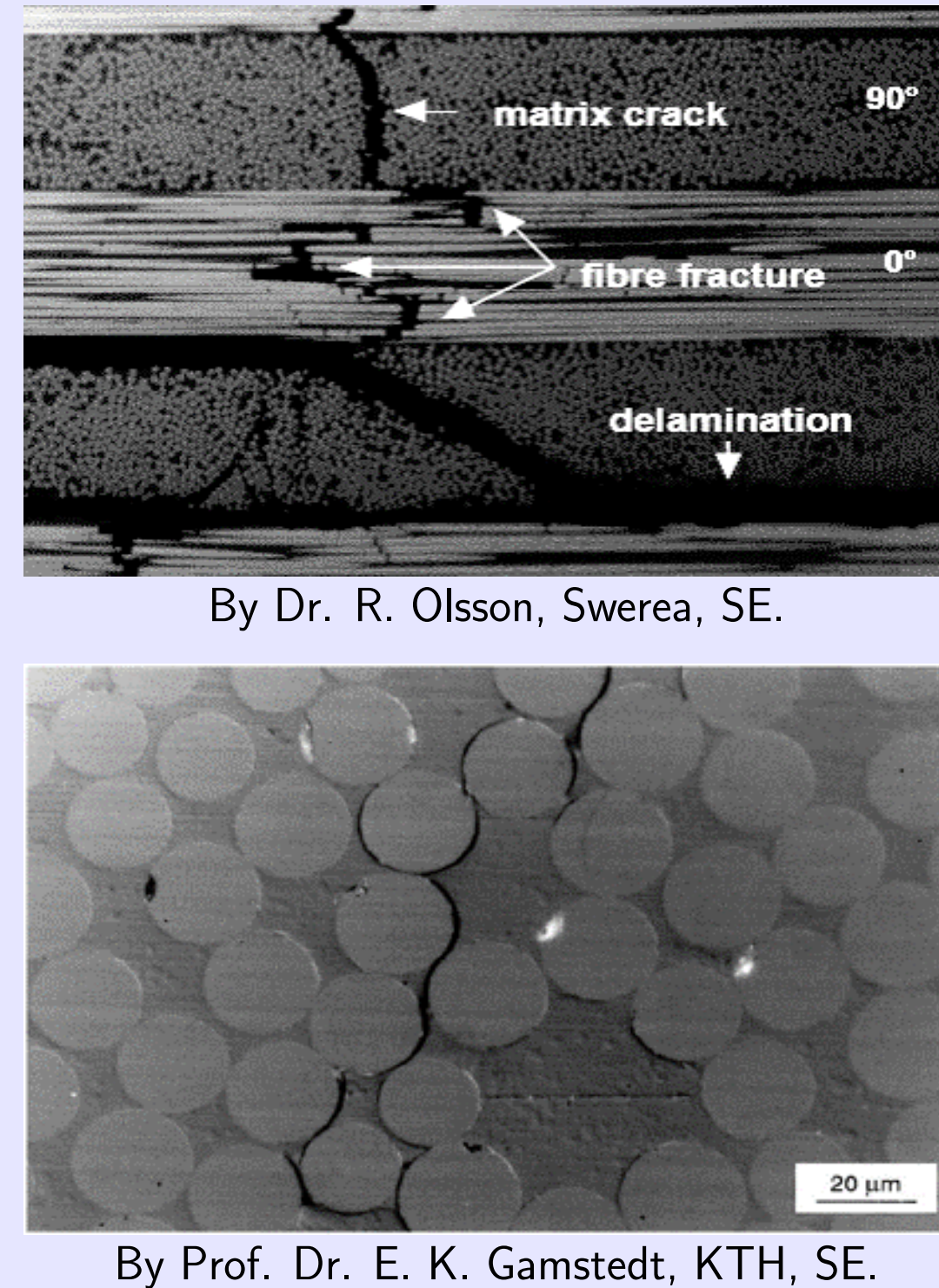
# Modèles micromécaniques du dommage intra-laminaire dans les stratifiés avec couches fines

## Ultra-thin Fiber Reinforced Polymer Composite (FRPC) Laminates: an Introduction

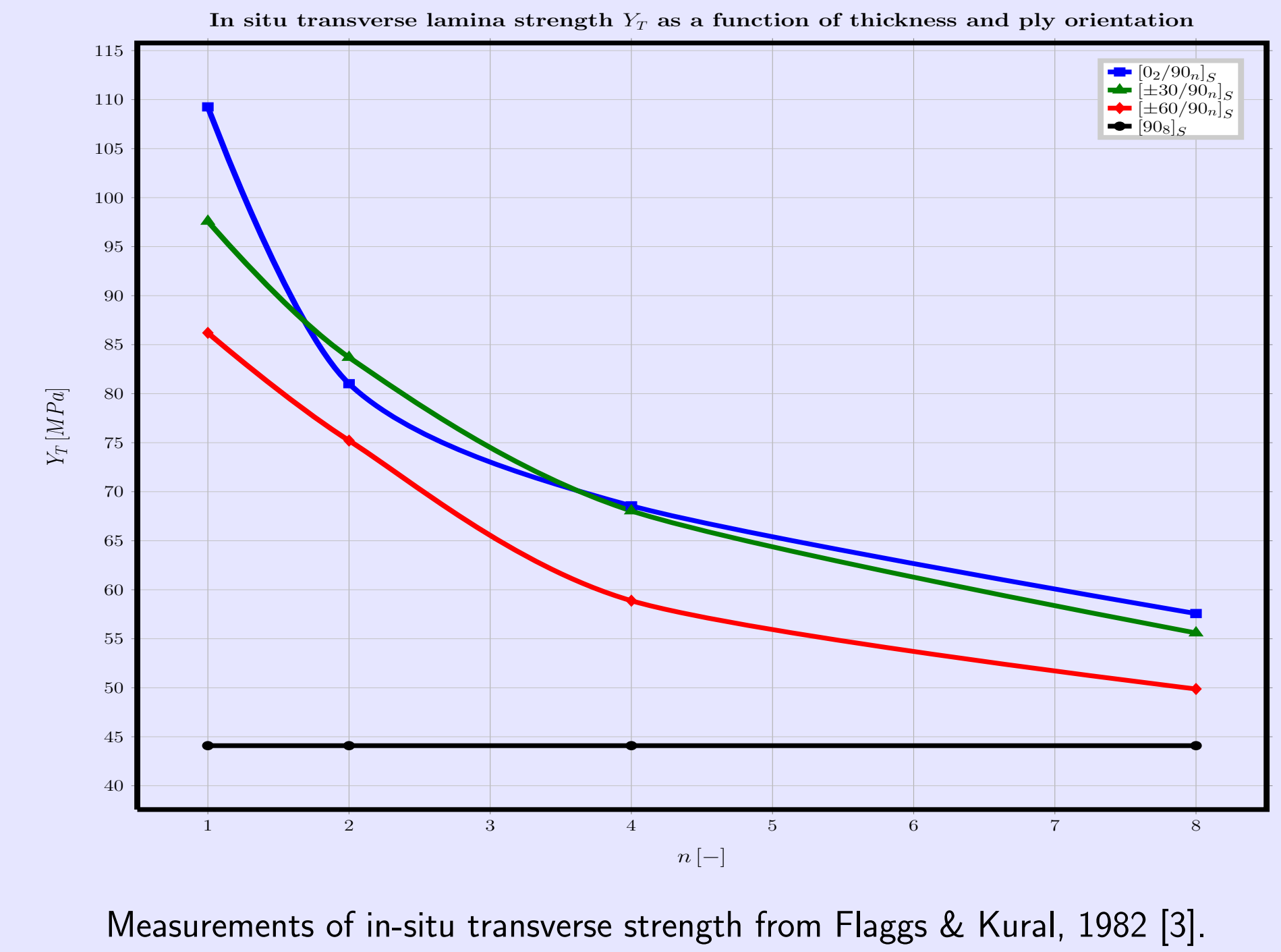
### Technological origins and applications



### Damage in FRPCs: a visual introduction



### The thin ply effect



## Objectifs & Approche

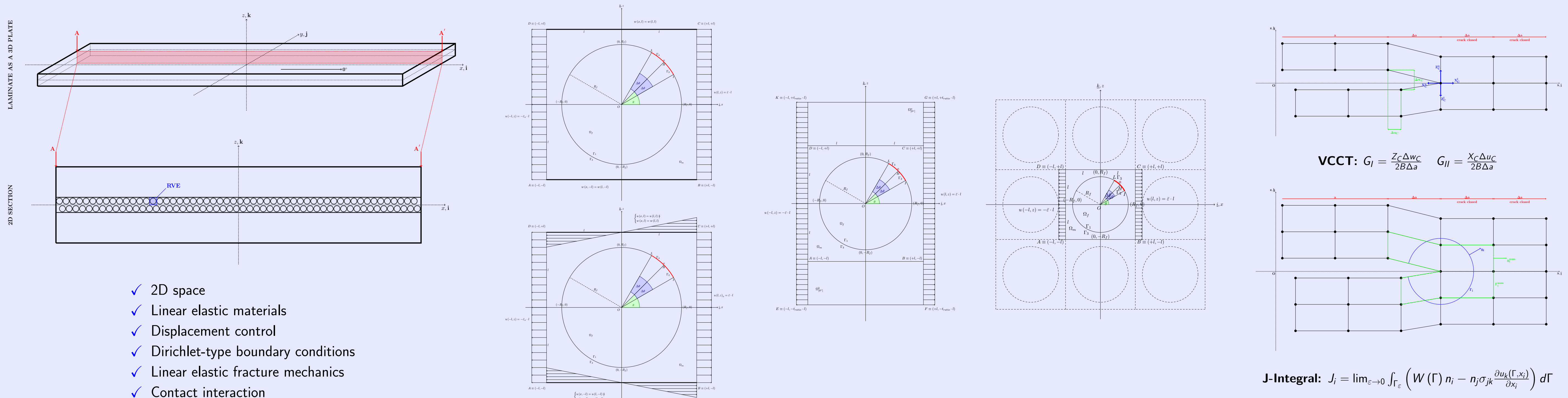
### What do we want to achieve?

- Investigate the influence of volume fraction, material properties, thin ply thickness and bounding plies' thicknesses on crack initiation
- $G_{*C} = G_{*C}(\theta_{debond}, \Delta\theta_{debond}, E(\cdot), \nu(\cdot), G(\cdot), VF_f, t_{ply}, \frac{t_{ply}}{t_{bounding\ plies}})$

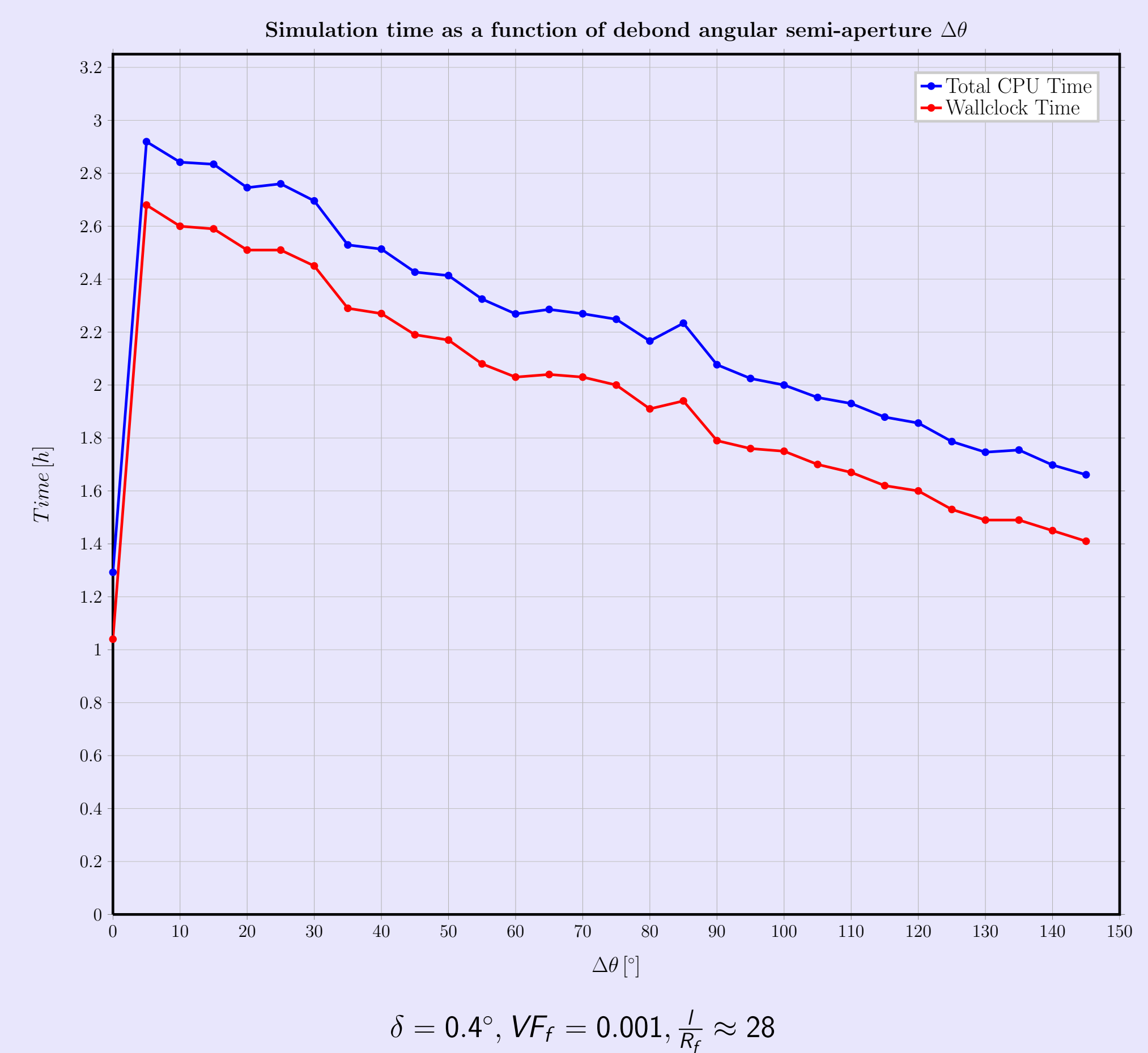
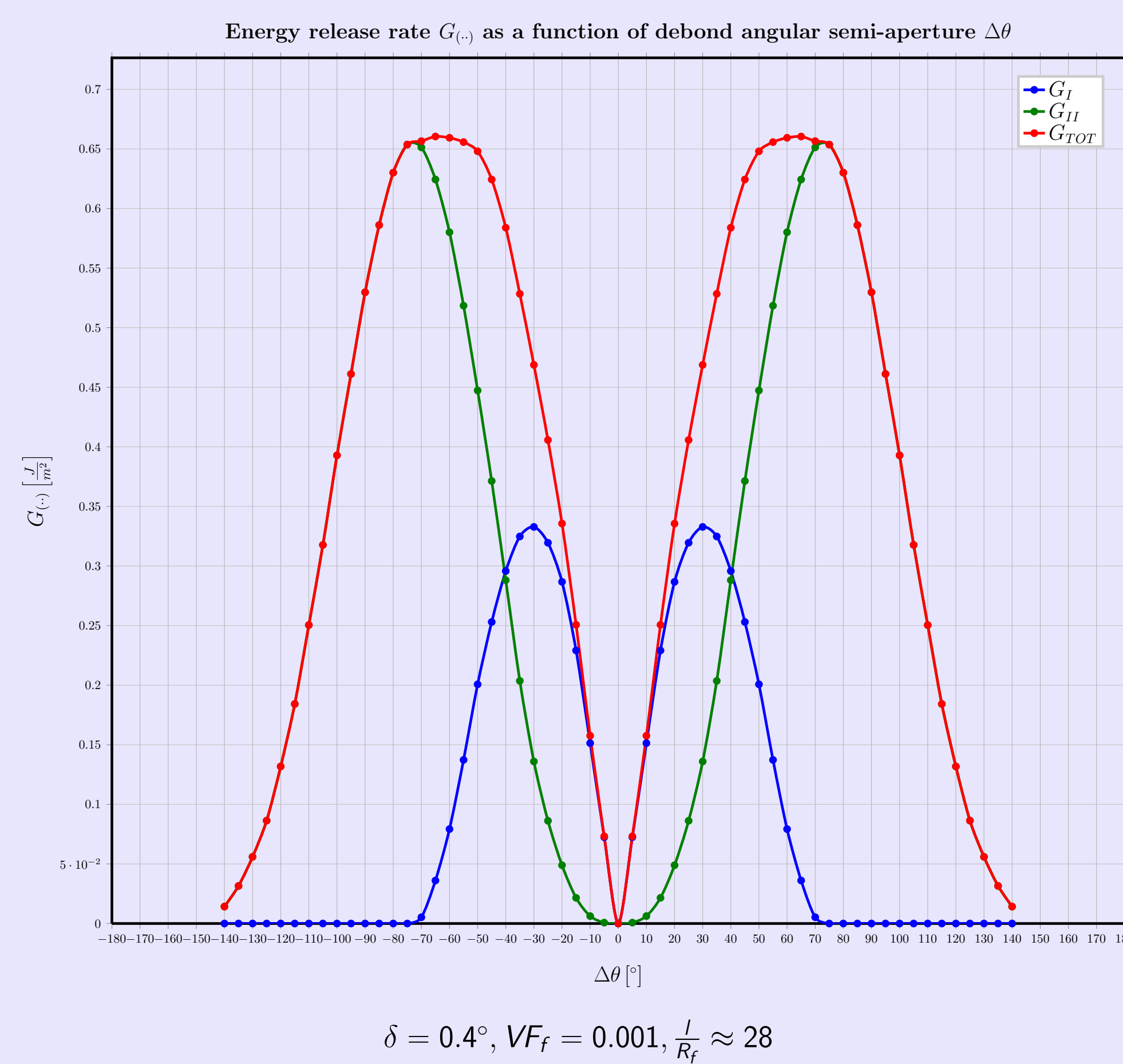
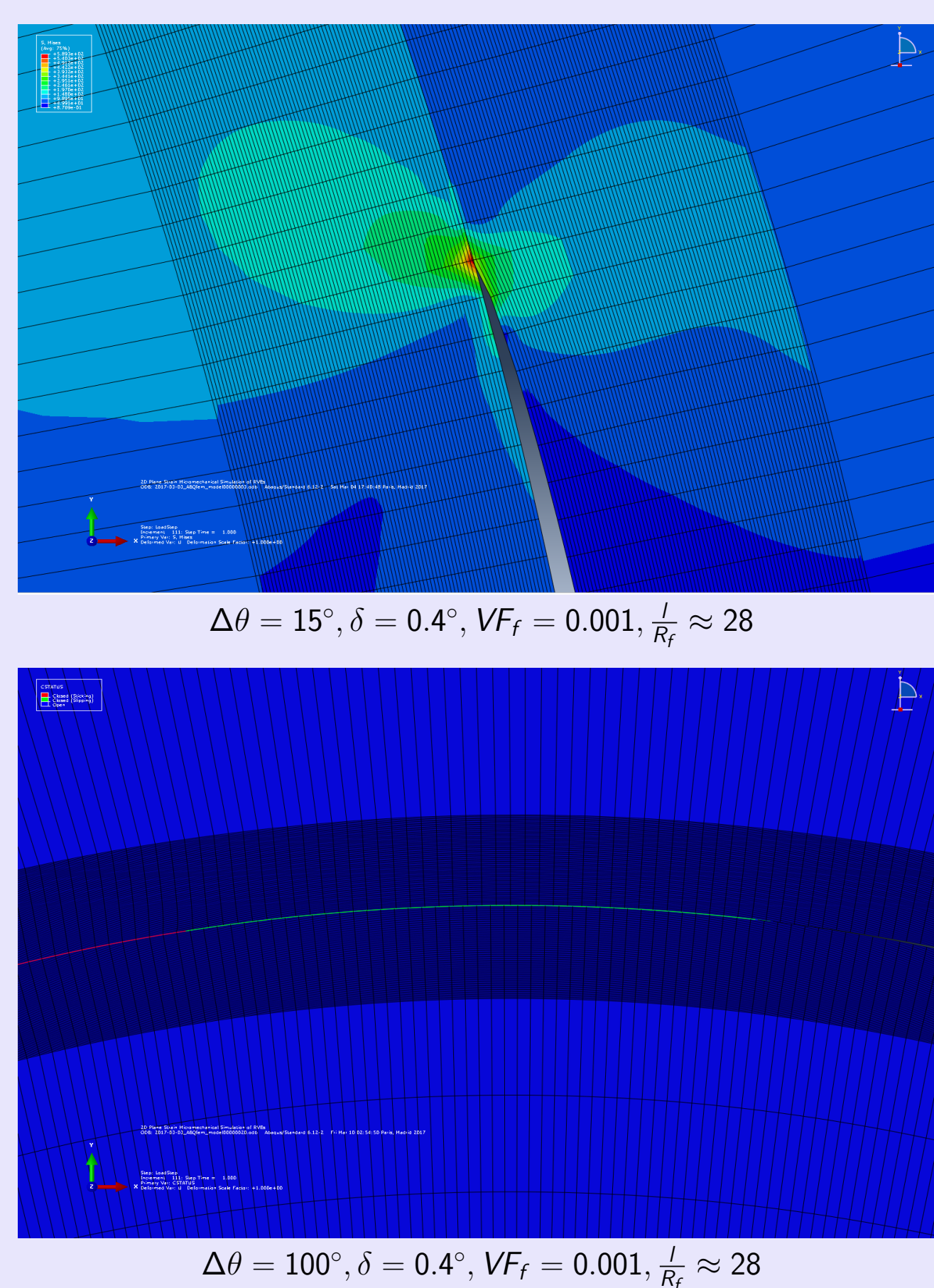
### How do we want to achieve it?

- Design and categorization of several Representative Volume Elements (RVEs)
- Automated generation of RVEs geometry and FEM model
- Finite Element Simulations (in Abaqus)

## Conception des modèles de Volumes Élémentaire Représentatif (VER) à l'échelle microscopique



## Preliminary Results & Validation



### Remerciements

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