MULTISCALAR CHARACTERIZATION OF THE MICROSTRUCTURE OF PLA/CLAY NANOCOMPOSITES FOR AN IMPROVED PREDICTION OF THEIR PROPERTIES

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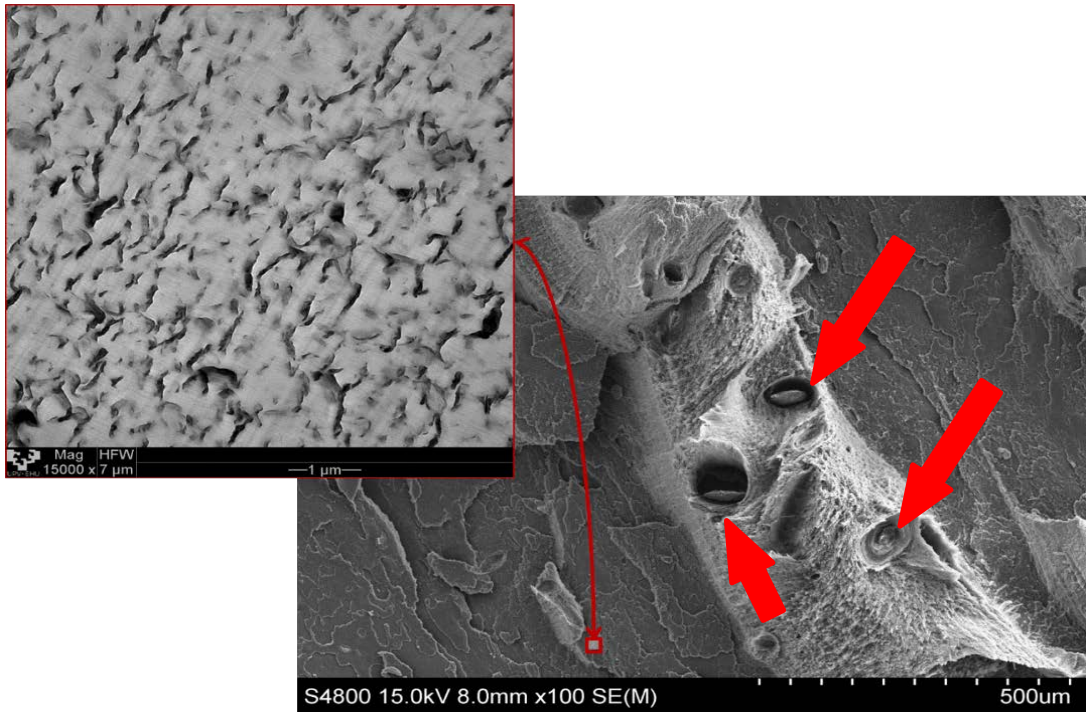
Outline of the presentation

- Motivation and aim of this work
- Methodology
  - Characterization of the microstructure
  - Modelling of the elastic modulus
- Results
- Conclusions

Motivation

- The final properties of polymer nanocomposites depend on the dispersion of the reinforcing nanoparticles
- Easy to miss significant aspects of the microstructure of the composite when only using TEM



Aim of this work

- To perform a multiscalar and complete assessment of the microstructure of PLA/nanoclay composites
- To analyze the effect of poorly dispersed nanoparticle aggregates on the mechanical properties (elastic modulus) of the composites using micromechanical models