S05 Micromechanics of heterogeneous materials

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The session will cover the micromechanical modelling of heterogeneous materials, related to the description and analysis of the influence of material microstructure on their effective thermomechanical response. Papers presenting experimental validation of micromechanical models will be also welcomed. The session will cover the following topics:

- scale transition methods, both mean-field models and computational homogenization;
- multi-scale approaches and their applications in modelling of materials;
- applications to composites, polycrystals and other heterogeneous materials in either elastic or inelastic range (plasticity, viscoplasticity, damage development, void growth and failure);
- modelling of formation and evolution of microstructures.