Mini-symposium on « Data driven approaches of materials, structures and processes »
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Computational engineering models of mechanics, used for structural analysis or manufacturing process design, traditionally rely on a combination of equations stemming from physical principles (e.g. conservation principles) and from models of material response (constitutive relations). The latter involve epistemic uncertainty which is difficult to involve and rely on parameters which can be difficult to identify, motivating data-driven approaches, where constitutive relations are described directly from data instead of using explicit predefined models. This mini-symposium invites contributions presenting methods inspired by this paradigm, including (but not limited to):

- model-free data-driven approaches for complex material response
- data-based representations of material histories (for history-dependent material response)
- definition and identification / generation of relevant material data (by experimental and computational methods)
- combined data-driven and model-based approaches, including hybrid modelling
- ...