MS06: Durability tests optimization (*Mohamed BENNEBACH, Centre d'Etudes Techniques pour l'Industrie Mécanique-CETIM, France*)

Manufacturers are under increasing pressure to reduce the time-to-market for their products while assuring high reliability of these products. Durability design and analysis are essential elements in achieving these objectives. Simulation tools are widely used to model in service behaviour and predict fatigue life of structures or components at the early stage of a design cycle. They can help optimizing the design in terms of durability, taking into account real life conditions. Nevertheless, durability tests remain necessary for material characterization, design verification or product sign-off, because there are many variables that theoretical models cannot adequately consider, such as manufacturing processes, assembly, material non-homogeneity, residual stresses or real constraints conditions, to name a few. This part of the product development cycle is recognised as one of the most critical and time-consuming activities. Some techniques have been developed to make it possible to accelerate the process either by reducing the time needed to obtain the material damage laws or by optimizing the rig tests representativeness and duration based on common usage of measurements and numerical simulation. Contributions to this topic of durability tests optimization are welcome to this mini-symposium.