Special Session (SS01)

Design of smart multifunctional structures using active PVDF materials

Organizers:
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Description:

Active materials, (ex. piezoelectric materials) are very appealing as they offer the possibility to design smart and multifunctional structures. These structures could then monitor autonomously their health state (structural health monitoring), actively control their vibration level (active control), or provide a haptic or audio feedback to a user… Ceramic piezoelectric materials (PZT) have been widely used in those areas but suffer from several limitations that hinder their practical use: their geometries are constrained to simple shapes, they are fragile from a mechanical point of view, and they contain lead which is environmentally not acceptable. Alternative active materials, such as PDVF (polyvinylidene fluoride), overcome those issues as they can be processed along with printed wire with any arbitrary shape, are not fragile, and are lead - free. This Special Session will be dedicated to presenting the development of smart structures using active PVDF-type elements.