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Message from the Guest Editor

Micro-electro-mechanical-systems (MEMS) are devices on a millimeter scale, with micro-resolution. Each MEMS is given by the integration of mechanical elements, sensors, actuators and electronics on a common silicon substrate, obtained through micro-fabrication technology. MEMS are often designed to work in mobile devices, and are therefore subject during their life to accidental mechanical loadings. Because of the MEMS size, multi-scale analyses are sometimes required in reliability analysis. Furthermore, also thermal, electrical, magnetic and environmental actions should be accounted for in a fully coupled multi-physics modelling of the devices. As for packaging, some technical problems caused to the devices are not yet thoroughly understood and solved. Since standards do not necessarily apply to packaged MEMS, new knowledge-based testing methodologies need to be proposed.

Guest Editor

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