

## EINLADUNG

zum Vortrag von

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### **Alternative accelerated qualification methods for electronic components**

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**Dienstag, 20. Juni 2017, um 17:30 Uhr**

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,  
1090 Wien, Strudlhofgasse 4 / Boltzmannngasse 5, 1. Stock

*Barrierefreier Zugang: Boltzmannngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals*

#### **Abstract:**

The rapid technological advancements and market demands in the electronic sector require application of highly accelerated, still practice relevant reliability assessment methods. At present, accelerated temperature cycling testing is viewed as the state of the art for reliability assessment of electronic products. However due to physical characteristics of the devices, there are limitations to accelerated thermal and power cycling tests. Accelerated mechanical fatigue testing has been proposed recently as a novel concept and an attractive time-saving qualification alternative for electronic devices. The principle idea of this approach is replacement of thermally induced strains by means of equivalent mechanical strains. Based on a physics of failure approach, the relevant failure modes in the material interfaces are induced enabling detection of weak sites of the devices in a very short time period. In addition of time saving factor a further advantage of mechanical fatigue testing is the possibility of decoupling of thermal, mechanical and environmental stress factors for a more effective investigation and diagnosis. Examples of applications of accelerated mechanical fatigue testing on a variety of electronic systems are demonstrated and the advantages and limits of the proposed methods are briefly discussed.

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