

***In-situ* tensile and cyclic testing in scanning electron microscope**

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Seeing is believing! Many developed classical theories in materials science and metallurgy have been proven indirectly. Modern techniques in in-situ characterization can be a way to observe related phenomena experimentally and prove or modify related theories. In addition, in order to develop next-generation high-performance materials, it is essential to gain knowledge about weak-points in the microstructure of conventional materials. In-situ testing is a very powerful tool for this purpose. This presentation aims to shed light on some development in in-situ tensile and cyclic testing combined with digital image correlation, which was used for deeper understanding of the behavior of individual microstructure features in metallic alloys under mechanical loading.