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Annonce de séminaire pour la plateforme
Caractérisation micro-mécanique in-situ

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Combined Image Correlation and Surface Reconstruction for In-situ Scanning Electron Microscopy

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Bâtiment Francis Bouygues – salle e.068

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Scanning Electron Microscopy (SEM) images often contain topological contrast. This contrast has such a natural appearance that it tends to evoke a 3D reconstruction in our brains. Therefore, it is no surprise that, already early on in the SEM history, researchers have been reconstruction sample surface topography using ``Shape from Shading'' methods. Within the presented work, the reconstruction algorithms for 4-quadrant Back Scatter Electron (BSE) images have been improved by generalizing the concept to 3 or more detectors in any orientation. Moreover, the reconstruction algorithm is tightly interwoven with a Quasi-3D Finite Element (FE) based Digital Image Correlation (DIC) method. Performing DIC in conjunction with the reconstruction allows the in-plane registration to be performed on the rich multi-detector data, while using the reconstructed data only for the out-of-plane registration.