

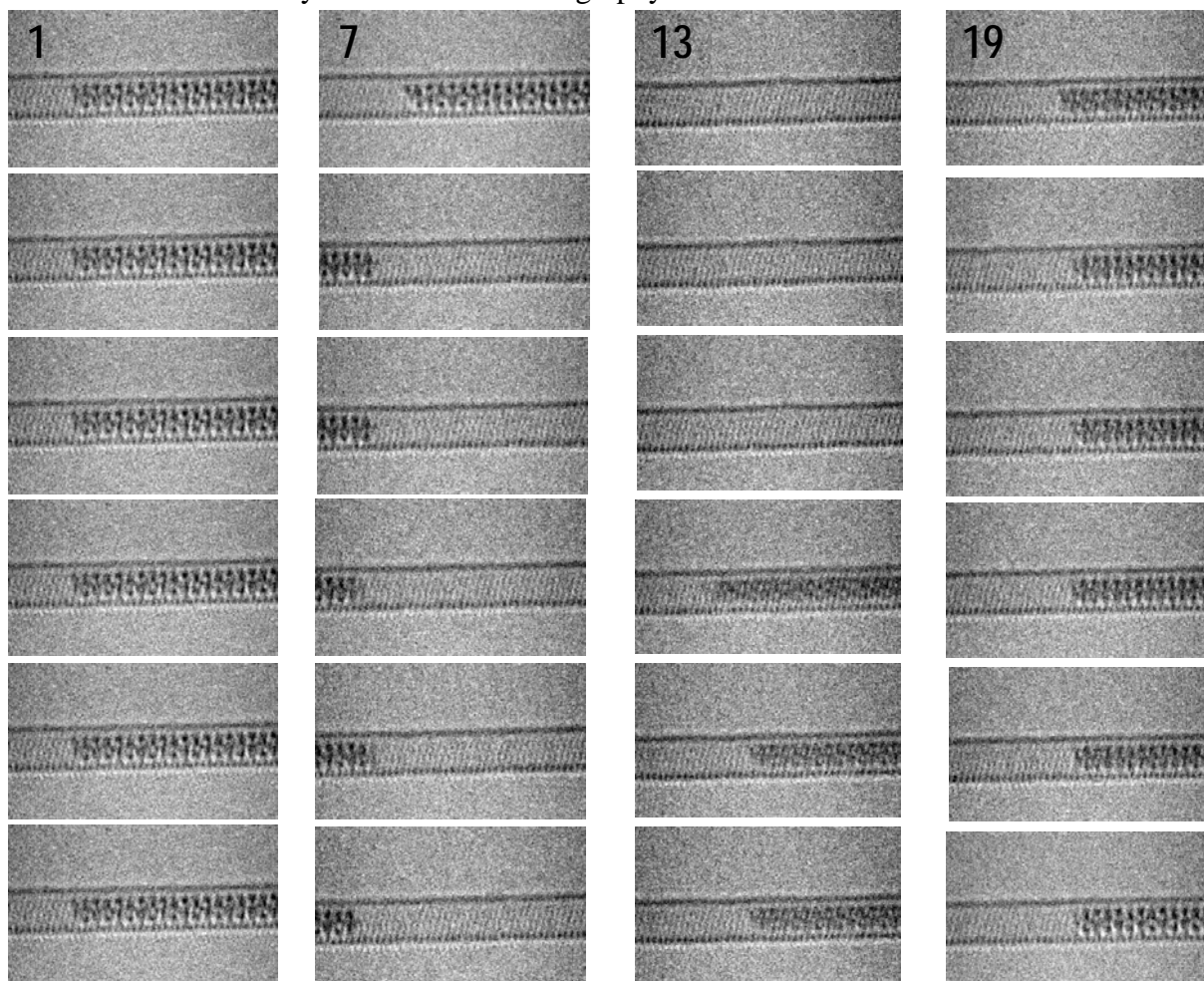
# Where are we on aberration correction and where do we go next?

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FEI's Titan™ with its monochromator and corrector technology allows examine the Nanoscale world on the atomic level. The system provides mechanical, electronic and thermal stability and is designed to deliver the ultimate performance in Materials Science applications deep into the Sub-Ångström world.

In this presentation the existing and new technology of FEI and application results on various materials are discussed. In the technology part results on the new TEAM columns with 50 pm information transfer are presented and the performance of the new high brightness gun (X-FEG) is discussed and exemplified in applications in HR-S/TEM. The introduction of Cs-correction allows lowering the acceleration voltage and still maintaining atomic resolution. This high tension flexibility enables to make atomic resolution images on materials, which were to unstable in the electron beam at higher voltages. Examples of atomic resolution images at 80 kV, 60 kV and preliminary images even at 30kV are presented. Additionally the limits in sample thickness in 3D tomography applications are explored by using the flexibility of the new condenser system in STEM tomography.



Time series of HR-TEM images on a single wall carbon nanotube filled with CuI  
The images were taken on an image Cs corrected Titan 80-300 at an acceleration voltage of 80 kV