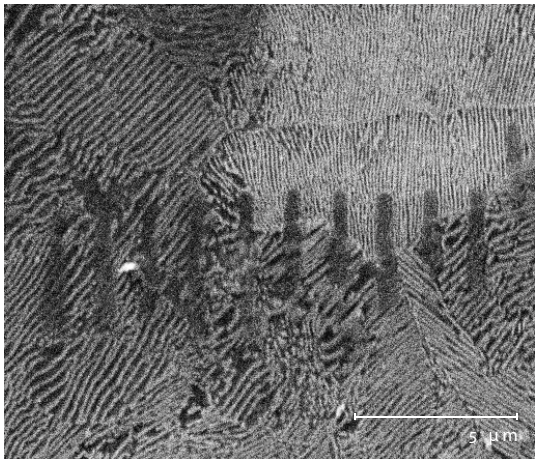
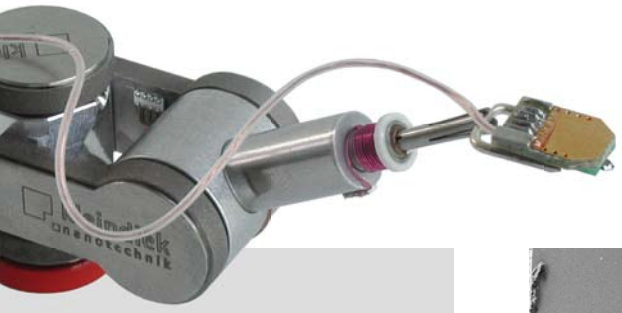
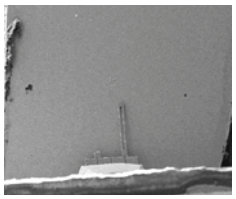
Effortless nanoindentation

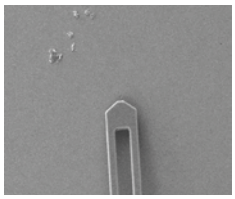
Various nanoindentor tools are available on the market for the characterization of the mechanical and tribological properties of materials, such as hardness and Young's modulus. The interpretation of nanoindentation measurements usually requires expensive AFM or TEM equipment. An economical alternative is to bring nanoindentation to the electron microscope.

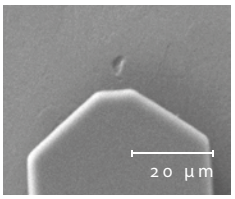


Hardness measurements on different phases of steel (cementite, ferrite)



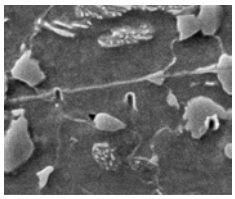


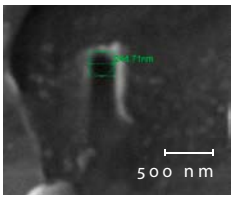




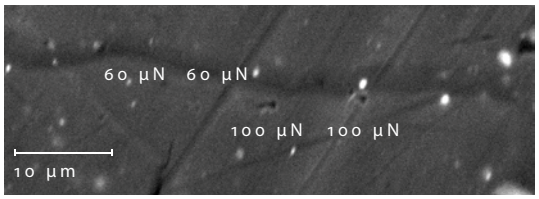
Selection of the indentation point in the SEM

The unique combination of precision manipulation and controlled nanoindentation in SEM or FIB is possible by fitting a force sensor to a precise and stable micromanipulator. This system makes it possible to simultaneously observe and quantify the mechanical behaviour of nanoscale volumes of solids in a few quick and easy steps.

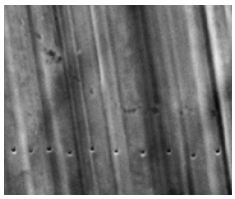


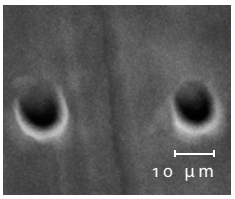


Quantitative measurements on different phases of steel



Nanoindentation in aluminium





Nanoindentation in copper

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