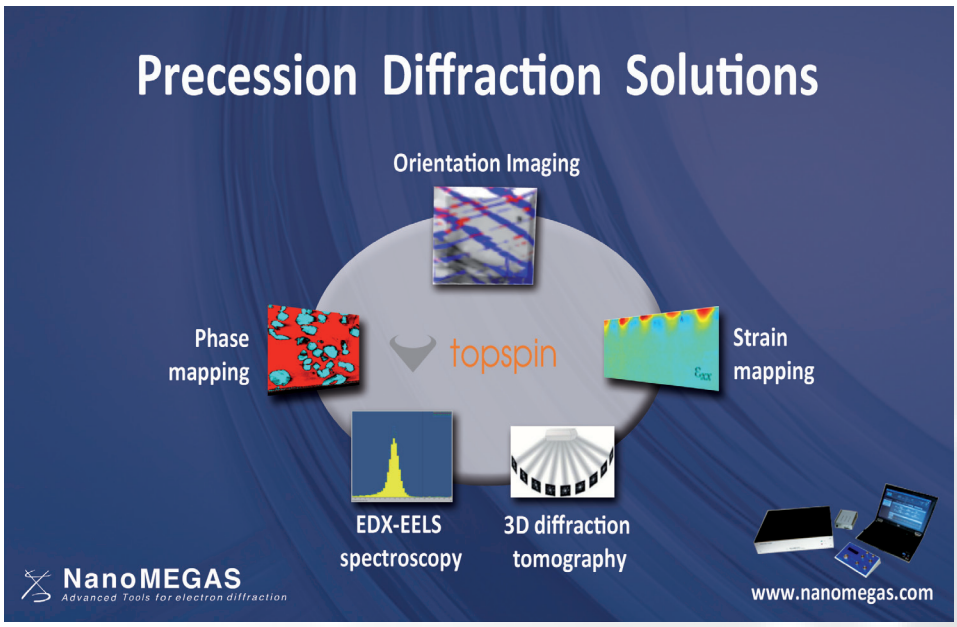
NanoMEGAS

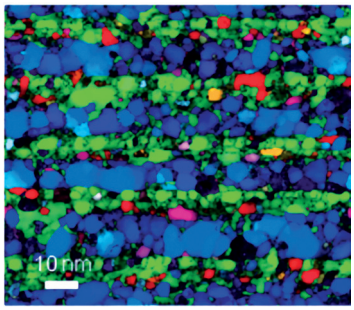
Advanced Tools for electron diffraction

Next generation advanced TEM applications enabled with precession electron diffraction

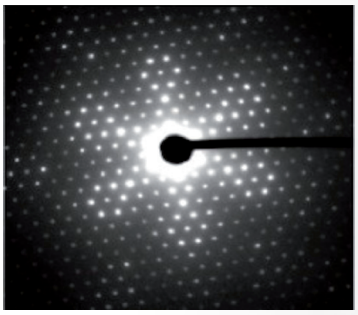
Advanced material properties depend on their texture at nm scale. NanoMEGAS has provided since 2004 innovative next generation advanced (Patented or Patent Pending) TEM applications: TEM orientation / phase imaging (ASTAR) & Strain mapping at 1-4 nm scale (AutoSTRAIN) enabled with precession electron diffraction (PED), Automatic diffraction PED tomography (ADT-3D) for ab-initio solution of nanostructures.

In collaboration with AppFive LLC a novel TOPSPIN platform has been developed as analytical experimental framework that offerssuite of PED enabled advanced solutions including ASTAR, Autostrain and other custom-tailored experiments.



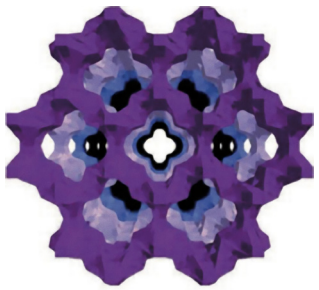


ASTAR-TOPSPIN TEM orientation imaging of Cu interconnects (Libra 200 F, PED 0.4°, step size 3 nm)
courtesy Dr. Darbal AppFive

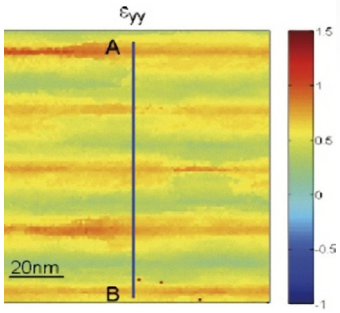


PED patern of a mayenite cubic mineral

NanoMEGAS is a leading industrial Partner of the largest European Network for TEM electron microscopy (ESTEEM-2) sharing advanced TEM facilities and shaping the future for world class next generation TEM applications.



Structure of ITQ-43 zeolite revealed by ADT-3D analysis
courtesy Prof. Kolb Mainz Univ



TOPSPIN-AutoStrain map with Si / SiGe calibration sample (step size 1 nm, ARM 200 F, PED angle 0.7°
courtesy Dr. A.Darbal AppFive LLC

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