P03 nanofocus end-station for material science

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Huge scientific interest to novel nanostructures and materials with superior properties and characteristics require appropriate experimental techniques with commensurate tools for detail investigations. P03 nanofocus endstation at PETRA III in DESY operated by Helmholtz Zentrum Geesthacht [1] provides highly stabile experimental setup with high spatial resolution using a nanosized beam. It is one of only few places in the world where the experimental conditions for scanning X-ray nanodiffraction are provided and it offers a hard X-ray beam with a size of only 250 x 350 nm². The strong focus on materials science at P03 is demonstrated by the wide range of experiments already performed with *in-situ* sample environments [2-4]: pressure, indentation force, tensile stress, fluid shear, magnetic fields - all of these parameters were successfully modified *in-situ* and combined with the high spatial resolution provided by nanofocused beam.

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