New developments in synchrotron radiation based microtomography (SRμCT) at DESY and neutron tomography (NCT) at GKSS

Felix Beckmann[1], Tilman Donath[1], Jens Fischer[2], Jürgen Vollbrandt[1], Heinz-Werner Schmitz[1], Thomas Dose[1], Thomas Lippmann[1], Lars Lottermoser[1], Rene V. Martins[1], Andreas Schreyer[1]

[1]GKSS-Research Center, Geesthacht, Germany – [2]Hannover Medical School, Hannover, Germany

The GKSS-Research Center Geesthacht, Germany, is operating the user experiment for microtomography using synchrotron radiation at the storage ring DORIS 3 at DESY Hamburg. In the last two years the beamline W2 was rebuilt. The outstanding feature of this synchrotron radiation beamline HARWI 2 is the use of high energy X-rays from 20 to 250 keV for materials science experiments. The new features for microtomography at HARWI 2, new enhancements and applications using lower photon energies at the wiggler beamline BW2 will be given. Furthermore at the research reactor FRG-1 the neutron radiography facility GENRA 3 was recently extended by a setup for neutron tomography. First results performing SRμCT at HARWI 2 and NCT at GENRA 3 will be presented. The combination of neutron and synchrotron radiation techniques will give new insight into the three-dimensional behavior of samples in materials science.