Thin film multilayers play a crucial role in the efficient transport of neutrons from the source to the experiments at the Swiss Neutron Spallation source SINQ. In order to develop and optimize the neutron optical components, a magnetron sputtering facility has been installed at PSI aimed at the deposition of thin films covering large substrate area. Initial uniformity tests are very encouraging showing thickness variation of only 1% for 5 nm layers over an area of 500 X 400 mm\textsuperscript{2}. A detailed study of the structure and stability of Ni/Ti multilayers in relation to the deposition conditions is underway and results from analysis using TEM, neutron and x-ray diffraction and reflection are presented. The results point toward the use of alloyed materials and reactive sputtering to sharpen and stabilize the interface between Ni and Ti.
Occurences:
  - Einrichtungen > Fakultäten > Fakultät für Physik > Physik Department > Lehrstuhl für Neutronenstreuung (E21) (Prof. Böni)

entries: