SYSR 5 Hauptvortrag

Zeit: Samstag 11:00–11:30 Raum: TU HE101

Hauptvortrag SYSR 5.1 Sa 11:00 TU HE101

Investigation of buried interfaces and surface structures — •Harald Reichert — Max-Planck-Institut für Metallforschung, Heisenbergstrasse 3, D-70569 Stuttgart

Surfaces and interfaces are of fundamental interest in condensed matter physics and the availability of highly brilliant synchrotron radiation has boosted our understanding of the structure of surfaces and interfaces in the last decades, especially in the case of liquid materials. Nevertheless, the characterization of the structure of liquid and amorphous interfaces, which is already elusive in bulk system, still presents a challenge to experimental physics. We have recently developed a new transmission-reflection scheme using high energy microbeams in a high resolution setup which allows us to resolve the structure of deeply buried interfaces in diffraction experiments. In a series of pilot experiments we have investigated a variety of solid-liquid interfaces. A common feature we found in most systems are pronounced density anomalies at the interfaces. Most prominent examples are Schottky contacts and the interface ice-SiO_2 which develops a high density liquid water layer upon approaching the melting temperature if ice.