

Project name: Investigation of phase changes in lipstick

Beamtime Report

28.10.2013 - 29.10.2013 (Date of the report to be added)

General information

Name of the rapporteur	Name of the rapporteur's organisation
Kostadin Balabanov	JSC Dzintars
Type of research (nanotechnology/health care/chemistry etc.)	Name of the research facility
Personal Care / Beauty / Decorative Cosmetics	DESY
Date of the measurement, duration	Location of the event
28.10.2013	Hamburg
Facility personnel participating in the measurement	
Dr. Graham Appleby	

Description of the project

Research description (short summary as written in the application)
Investigation of phase changes in lipstick
Summary of activities (experiments performed, beamtime used, preliminary overview of results, next steps and other relevant information)
<p>High resolution XRD was performed on six different samples of lipstick at beamline P02.1 at DESY in Hamburg to determine if the lipstick samples undergo damaging structural changes performed at temperatures between -50 C° to 95 C° for one of the samples and from -50 C° to 50 C° for the rest of the samples.</p> <p>It was observed that the structural changes that occur due to temperature fluctuation are reversible at room temperature. Therefore it may be assumed that the lipstick shall be stable while transportation. It was determined that in temperatures between 70 and 95 the paraffin host is breaking and the changes in the structure are irreversible.</p> <p>The emission of liquids ("sweating") or solids ("crystallization") on the surface could not be fully explained. Nevertheless the thermal expansion/contraction of the paraffin (that was observed in the experiment) can take essential part of these processes.</p>

How would you describe cooperation and assistance from industrial liaison officers and national contact points while preparing and carrying out the research at large scale facilities?

Very kind and helpful.

Other personal remarks

Annexes

Annexes

(list of annexes; meeting minutes, graphical illustrations, tables and other supplementary data)