

Project name: High resolution investigation of microstructures in pharmaceutical formulations

BEAM-TIME APPLICATION (Project) REPORT
05.06.2013 - 30.06.2014 *(Date of the report to be added)*

General information

Name of the rapporteur	Name of the rapporteur's organisation
Sten Sturefelt	Imaging Resource AB
Type of research (nanotechnology/health care/chemistry etc.)	Name of the research facility
Pharmaceutical development	HZG Geestacht
Date of the measurement, duration	Location of the event
30-06-2014	DESY
National Industrial Liaison Officer from rapporteur's country participating in the measurement	
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Description of the project

Research description (short summary as written in the application)
The purpose of the study is to provide data enabling evaluation of the applicability of X-ray micro-tomography of microstructures in pharmaceutical development of granules and tablets.
Summary of activities (experiments performed, beam-time used, preliminary overview of results, next steps and other relevant information)
<p>September 2013: A test measurement was performed with a pharmaceutical tablet sample in order to evaluate suitable sample preparation and instrument settings. 3 image stacks and a few slice images were produced. A Nanotom lab instrument was used for the investigation.</p> <p>January 2014: Another test run was performed with two tablet samples using the lab instrument. 2 image stacks and a few slice images were produced. The induced micro-cracks in the sample were difficult to detect due to the limited instrument resolution. After this discouraging result it was decided to continue with the smaller granulated samples.</p> <p>June 2014: Measurements were made of two granulated samples producing 2 image stacks. The result is currently under evaluation.</p> <p>No synchrotron beam-time was used in any of the experiments.</p>

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

No national (Swedish) contact point was assigned for this project. However, my contact point in Germany, Marc Thiry, have struggled to get access to functioning instrumentation and support staff to carry out this project.

Other personal remarks

The time required to complete this projects is much too long. Apparently planned construction work on the synchrotron facility made it difficult to allocate beam-time for my experiment and the investigation was postponed many times. We got the feeling that Science Link experiments were not prioritized.

Suggested improvement: If lengthy delays are foreseen consider moving the project to another facility within the Science Link domain.

Annexes

Annexes

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