



EUCALL - WP6 – HIREP

Milestone 6.2: M4 / 31.01.2016

„List of sample types for identification software“

The identification software to be developed in the work package HIREP and delivered as D6.7 at the end of 08/2018 has to cover the identification and precise position measurement of at least the following types of samples:

1. Periodically placed or manufactured targets on a support / substrate of equal or similar shape. The software has to find the position of the geometrical center of the targets with respect to the reference marks of the frame / substrate. Position information from the placement / manufacturing process can be used for a rough approach.
 - a. foils placed in a sandwiched holder with holes / windows
 - b. flat cones of tens of μm tip and hundreds of μm base (lithography)
 - c. micro dots with a size from 1 μm to several tens of μm
 - d. reduced mass and nanostructured targets
 - e. micrometer sized biological samples positioned by pick-and-place
 - f. wires spanned across micrometer sized holes / windows
2. Statistically distributed targets on a support / substrate. The software has to find the position of the geometrical center of the targets with respect to the reference marks of the frame / substrate. The complete substrate area has to be screened and analyzed.
 - a. dried out suspension with sphere shaped single particles or clusters of them
 - b. self-organized growth of metallic / semiconductor / insulator micro structures
 - c. solid foams of two chemical components with open surface / pores
 - d. crossing points inside of ravel of filament like materials (nano / micro wires / fibers)
3. Homogenous materials with defects / cracks / discontinuities. The software has to find the position of the imperfections with respect to the reference marks of the frame / substrate. The target list will be a periodic grid with omissions at the erroneous locations.
 - a. metallic glasses like GeO_2 , $\text{SiO}_2(80\%)+\text{Na}_2\text{O}_2(20\%)$
 - b. thin films of metal / semiconductor / insulator materials on metal / semiconductor / insulator substrates
 - c. thin films of metal / semiconductor / insulator materials structured with metal / semiconductor / insulator nano and micro structures

This list will be continued /actualized during the time span of the project and the development of the sample identification software.

