European C-MAC

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Workshop on the surface structure determination using X-ray synchrotron radiation.

Grenoble 24 Mai 9h – 25 Mai 14h

The purpose of the workshop is to bring along specialists of the surface structure determination and researchers in the field of complex metallic alloys (CMA) in particular for the structure determination of CMA (bulk or surface).

The workshop will focus on the technique of surface diffraction, its application on simple systems and its generalization for complex metallic alloys. Whereas the technique is widely used for 'simple' surfaces it has rarely been used for the study of the surface of complex metallic alloys. Recent measurements will be discussed and analyzed, and compared to what can be obtained by other techniques. This will be complemented by a comparison of what is achieved for the bulk structure determination.

Tentative program:

The 23 Mai afternoon 14h-18h will be dedicated to the data analysis of already obtained data (ESRF).

24 Mai 9h-18h, SIMaP, Campus de St Martin d'Heres.

9:00- 10:30 Surface structure determination by SXRD: principles and application to simple systems. (Jacub Drnec)

(Introduction to the SXRD technique, SXRD at ESRF, data analysis (fitting and simulation, programs available) Selected examples (clean substrate/surface reactivity study))

11:00- 12:30

Bulk structure determination and characterization of complex metallic alloys (synchrotron/neutrons) M. de Boissieu

12h30-14h00 Lunch

13h-15h The surface structure of quasicrystal approximants: experiment (STM, LEED, XPS) and simulation. (V. Fournée, E. Gaudry L. Ledieu)

15h-16h Oxidation properties of approximant (A. Benni, S. Le Moal)

16h30-17h30 On going projects: presentation and first results obtained at the ESRF (J. Ledieu, A. Benni). Results and difficulties.

Discussion

20H Get together dinner in Grenoble.

25 Mai 9h-12h30

a) discussion of the results

b) Other synchrotron techniques used to characterise CMA (i.e. HAXPES)

c) Future proposals.

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