

SYLLABUS

Course Title: Chemical Adsorption

Reference Books: *Introduction to Surface Chemistry and Catalysis* by Gabor A. Somorjai, John Wiley & Sons, Inc. (1994); *Exactly Solved Models in Statistical Mechanics* by R. J. Baxter, Academic Press Inc. (1982).

Material:

1. Introduction to surface chemistry.
2. Lattice modeling of surface adsorption and construction of the transfer matrix.
3. Connection between lattice models and experimental data (library search).
4. C-programming and use of the Cray J90 and Cray T3E for numerical computations.

Requirement:

Each student will be given separate but complementary projects dealing with the adsorption of gas molecules on a surface made of sites forming an array of equilateral triangles. The array is of finite width and infinite length. The model simulates the adsorption on a crystal surface made of terraces with preferential adsorption on the steps.