

Ulm University,
March, 22 - 24, 2007

Third German-Japanese School on Convergent Beam Electron Diffraction

Central Facility of Electron Microscopy

Group of Material Science Electron Microscopy

A warm welcome to the 3rd German Japanese School on Convergent Beam Electron Diffraction at Ulm University, the birth town of Albert Einstein. Beside teaching basics of CBED, the school this time is mainly devoted to the practice of CBED experiments & calculations and to training the precession assisted method for obtaining quantitative diffraction data of nanocrystals.

In addition to the training of conventional and large angle CBED enabling symmetry and defect determination as well as precise lattice parameter and strain analysis from a tiny crystal volume, the simultaneous many-beam excitation

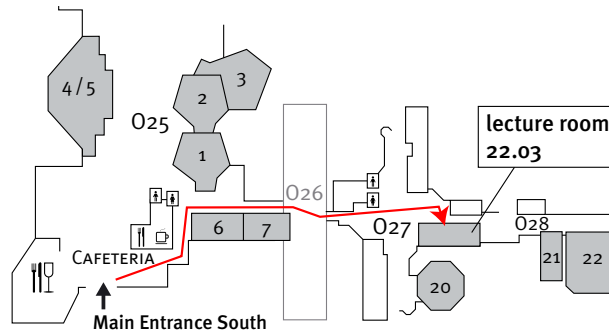
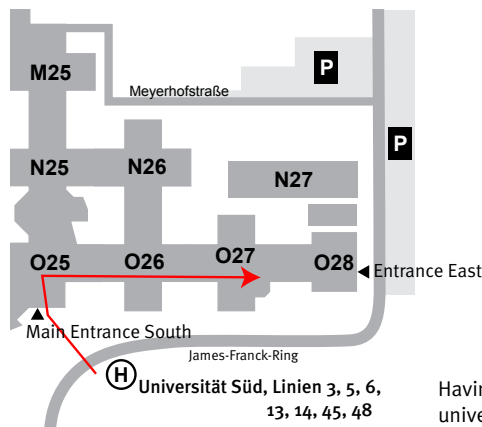
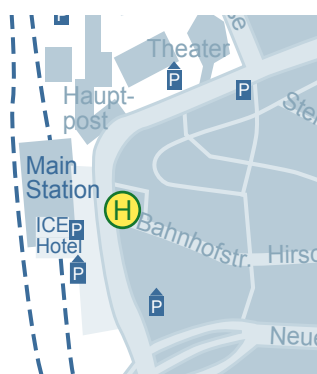
CBED method will be trained, which allows polarity determination. The computer programs trained are: "mbfit" (Bloch wave calculations), "winkiku" (kikuchi pattern) and "hough" (pattern measuring). A session will be devoted to hot topics of CBED research. Latest developments from the TEM manufactures will be announced. Attendees certificates will be presented at the end of the school.

Ute Kaiser and Michiyoshi Tanaka

German Research Foundation (DFG) SFB 569

Landesstiftung Baden-Württemberg Competence Network "Functional Nanostructures"

How to get to the CBED School at Ulm University:



Transportation from InterCityHotel Ulm

In front of the train station, there is a bus and tram stop.

Busses go every 10 minutes from 7am to 8pm, except Sunday mornings.

You can buy a ticket for a single ride (Euro 1.70) at the driver or at a machine at bus stops, however as a guest from InterCityHotel it is free.

Enter bus 3 that leaves from the main station in Ulm; you have to take the bus going to the left. After 5-10 mins exit at the 7th stop called "Universität Süd" (first stop after the woods).

Having left the bus at "Universität Süd", climb the staircase and enter the university, you are now in building **O25** (chessboard like numbering system). Turn right, cross the cafeteria and head for building **O27/O28**. The school is held at **O27**, room number **22.03**.

By Car:

From Stuttgart or Munich:

Leave the highway **A8** at the exit **Ulm West**. Continue driving on the **B10** towards **Ulm/Friedrichshafen** then take the exit at **Wissenschaftsstadt**. After traveling for about one kilometer, make a left turn to the University.

22.03.07

- 10:00 **Opening**
- 10:30 M. Tanaka | **Overview of CBED, Point-group and space-group determination**
- 11:15 M. Tanaka | **Defect identification**
- 12:00 **Lunch**
- 13:00 U. Kaiser | **Lattice parameter determination**
- 13:45 E. Essers (Zeiss) | **Performance of the latest ZEISS Analytical Transmission Electron Microscopes**
- 14:15 **Coffee Break**
- 14:30 **Practicum** | Experiment & Calculation
- 18:45 End of Practicum
- 19:15 Short walk through the historical city
- 20:00 Coming together at conference room No. 3 in the InterCityHotel
- 20:30 H. Rose | **History of Aberration Correction**

23.03.07

- 08:30 M. Rodewald (JEOL) | **New developments in TEM from JEOL**
- 09:00 S. Nicolopoulos | **Precession electron diffraction technique in the structure analysis of nanocrystals**
- 09:30 **Practicum** | Experiment & Calculation
- 12:00 **Lunch**
- 18:30 End of Practicum
- 19:00 Coming together at Villa Eberhardt
- 19:15 F. Steiner | **Einstein and modern physics**
- 20:15 **CBED party at Villa Eberhardt**

24.03.07

- 09:30 FEI, B. Freitag | **A Novel Automated Method to Measure Strain at the Nano Scale**
- 10:00 A. Chuvilin | **Understanding of CBED pattern formation in real space**
- 10:30 Ch. Koch | **Determining the Projected Potential of GaAs(011) using a "scattering path" expansion**
- 11:00 E. Spiecker | **Polarity determination with CBED and characterization of defects, interfaces and nanostructures in polar crystals**
- 11:30 **Coffee Break**
- 11:45 K. Saitoh | **CBED on Quasicrystals**
- 12:15 J. Etheridge | **Coherent CBED**
- 12:45 K. Tsuda | **Strain measurement using ZOLZ reflections**
- 13:15 **Closing ceremony**
- 13:45 **Lunch**
- 17:00 **After-School concert in Kloster-Blaubeuren**

Sponsored by:

German Society of Electron Microscopy (DGE)

German Society of Crystallography (DGK)



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