



Program of the 2nd “Berichtskolloquium” of the SPP 1236

“Structures and characteristics of crystals at extremely high pressures and temperatures”

Place: University Main Building, 2nd floor, Akademiestrasse 6, Freiberg

Lectures: the lecture room is in the Senatssaal, 2nd floor, University Main Building

Poster presentation and coffee breaks: Historicum, 2nd floor, University Main Building

Lunch and dinner: Castle restaurant, 2nd floor, Schloss Freudenstein, Schlossplatz 4

Monday, 16th June 2008

12:00 Lunch

14:00 Welcome

14:00–14:05 **Prof. B. Winkler:** Welcoming remarks

14:05-14:20 **Prof. E. Kroke:** Welcoming remarks

14:20-14:35 **Prof. E. Kroke:** Experiments at the High Pressure Research Center in Freiberg

14:35 ***The central laser heating facility***

14:35-14:55 **Dr. L. Bayarjargal:** Recent developments of the laser heating facility in Frankfurt and Petra III

14:55-15:15 **Dr. A. Friedrich:** Experiments at the central laser heating facility

15:15 Coffee break

15:45 Session: ***Minerals***

15:45 -16:10 **A. Watenphul:** Quantification of the hydrogen-bond geometry in topaz-OH by low-T IR-spectroscopy

16:10 -16:35 **R. Minch:** High-pT crystal chemistry of anhydrous carbonates

16:35-17:00 **F. Deon:** Water incorporation in wadsleyite and its effect on the position of the 410 Km discontinuity

17:00 **Poster session I**

17:45 **Cluster meeting I** (DAC and “extreme conditions” beamline at Petra III)

18:30 Dinner

20:00 **Evening program (Visiting of the geoscientific collections)**

Tuesday, 17th June 2008

9:00 Session: *Minerals (continued)*

9:00-9:25 **K. Schollenbruch:** Systematics of the post-spinel transition in hercynite and magnetite

9:25-9:50 **Dr. C. McCammon:** New results from in situ high P,T studies of lower mantle minerals

9:50-10:15 **B. Hewener, Prof. V. Schünemann:** Iron dynamics in earth mantle minerals probed by Mössbauer spectroscopy using synchrotron radiation

10:15-10:45 **Invited talk: Prof. K. Syassen (MPI for Solid State Research , Stuttgart):** Transition metal oxides under pressure

10:45-11:10 **Coffee break**

11:10 Session: *Carbides and Nitrides*

11:10-11:35 **Dr. E. A. Juarez Arellano, Prof. B. Winkler, Dr. A. Friedrich, Dr. D.J. Wilson, Prof. M. Koch-Mueller, PD Dr. K. Knorr, Dr. W. Crichton:** Formation of rhenium carbide at high-(PT) conditions

11:35-12:00 **PD.Dr. L. Dubrovinsky, PD Dr. N. Dubrovinskaia, E. Zarechnaya, Prof. H.F. Braun:** C-doped boron: synthesis and properties of semiconductors in the B-C system

12:00 **Lunch**

14:00-14:30 **D. Rau, Prof. R. Niewa, D. Rau, PD. Dr. U. Schwarz:** High-pT Crystal Growth and EoS of Binary Iron Nitrides

14:30-14:55 **Prof. R. Dronskowski , M. Wessel:** The phase diagram of iron nitride in a theorist's point of view

14:55-15:25 **D. Dzivenko** High-Pressure Synthesis of Novel Binary and Ternary Phases in the Si-C-N System

15:30-16:00 **Photo and Coffee break**

16:00 **Poster session II**

17:00 **Cluster meeting II** (Multi Anvil)

18:00 **Dinner**

19:30-20:30 **Evening program: Invited talk: Prof. M. Reich (Freiberg):** "Was macht der Computer im Backofen? - Tiefbohrtechnik unter hohen Temperaturen und Drücken -"

Wednesday, 18th June 2008

9:00 Session: *Oxonitrides*

9:00-9:30 **M. Schwarz:** Further progress in the high-pressure investigations of the Si-Al-O-N system

9:30-10:00 **C. Braun, R. Römer:** Synthesis and investigations of highpressure nitrido- and oxonitridosilicates

10:00 -10:30 **Dr. I. Kinski, E.C. Zvoriste, S.A. Hering, Prof. H. Huppertz:** High-pressure-High Temperature syntheses in the GaN/Ga₂O₃ system: DAC and MAP approach

10:30-11:00 **Coffee break**

11:00 Session: *Other Compounds*

11:00-11:25 **T. Locherer, S.Ghedia:** Investigation of the high pressure high temperature stability of Sb₂O₄ and V₂O₅

11:25-11:50 **A.-M. Welsch, B. Mihailova, R. Stosch, B. Güttler, M. Gospodinov and U. Bismayer:** Local structural changes in pure and Ba-doped PbSc_{0.5}Ta_{0.5}O₃ and PbSc_{0.5}Nb_{0.5}O₃ relaxor ferroelectrics under high pressure

11:50-12:00 **B. Winkler:** Concluding remarks

12:00 **Lunch**

13:00 **Departure**

Social program

Guided tour in the university mine “Reiche Zeche” and “Alte Elisabeth”, Fuchsmühlenweg 9:

2,5 h tour: 11:00 am

2 h tour: 2:00 pm

1 h tour: 10:00 am, 11:00 am, 1:00 pm, 2:00 pm, 3:00 pm

Cathedral sightseeing: every day at 10:00 am, 11:00 am, 2:00 pm, 3:00 pm, 4:00pm
Concert on the Silbermann organ: 18.06.08 3:00 pm

City tour (by appointment only)