"H III" Lecture Hall – Wednesday 7 April 2004

08.45 – 09.15 **Ross Angel** – invited : *The compression of framework minerals: beyond rigid polyhedra*

S04 Experimental phase equilibria

Conveners: Stefano Poli, Igor Ryabchikov, Peter Ulmer

09.15 – 09.30 **Catherine Leyx, Christian Chopin, J. Cornelius van Miltenburg, Fabrice Brunet, Teddy Parra**
A thermodynamic database for phosphate minerals: New constraints in the system MgO-Al_2O_3-P_2O_5-SiO_2-H_2O

09.30 – 09.45 **Fabio Ferri, Stefano Poli**
Experimental phase relationships in metapelites at near-solidus conditions: Influence of the bulk composition

09.45 – 10.00 **Geoffrey Bromiley, NadËge Hilaret, Catherine McCammon**
H and Fe^{3+} solubility in rutile and TiO_2 (II): Phase assemblages during UHP metamorphism and the role of silica polymorphs in the lower mantle

10.00 – 10.15 **Tetsuya Komabayashi, Soichi Omori, Shigenori Maruyama**
Stabilities of Dense Hydrous Magnesium Silicates in the Earth´ s Upper Mantle: From Water Undersaturated Experiments

10.15 – 10.45 **COFFEE AT THE COFFEE CORNER IN THE EXHIBITION AREA**

10.45 – 11.00 **Rajdeep Dasgupta, Kate Stalker, Anthony Withers, Marc Hirschmann**
The Transition from Carbonate-rich to Silicate-rich Melts in Eclogite: Partial Melting Experiments of Carbonated Eclogite at 3 GPa

11.00 – 11.15 **Ronit Kessel, Peter Ulmer, Thomas Pettke, Max Schmidt, Alan Thompson**
Phase relations and second critical endpoint in eclogite-H_2O at 4-6 GPa and 900-1400 ºC

11.15 – 11.30 **Peter Tropper, Craig Manning**
The solubility of rutile and corundum in H_2O at high P and T: Constraints on Ti and Al mobility during high-P metamorphism

11.30 – 11.45 **Samuel Villiger, Peter Ulmer, Alan Thompson, Othmar Muentener**
The liquid line of descent of anhydrous tholeiitic liquids by fractional and equilibrium crystallisation at 0.7 and 1.0 GPa

11.45 – 12.00 **Juergen Koepke, Sandrin Feig, Jonathan Snow**
Late-stage magmatic evolution of oceanic gabbros is a result of hydrous partial melting: Experimental evidence

12.00 – 12.15 **Alexander Borisov, Herbert Palme**
Liquidus karrooite stability and composition: An experimental study

12.15 – 12.30 **Natalia Kosyakova, Leonid Aranovich, Konstantin Podlesskii**
Orthopyroxene - Aluminous Spinel Equilibria in the System FeO-MgO-Al_2O_3-SiO_2: Experimental Data and Thermodynamic Treatment

12.30 – 12.45 **POSTER PREVIEW** **Chair: Stefan Weyer**

12.45 – 13.45 **LUNCH**

13.45 - 15:15 **REFRESHMENTS AND POSTER SESSION**

08.45 – 09.15 **Uli Faul** – invited : *Viscoelasticity of olivine and implications for the upper mantle*

S02 Deformation processes

Conveners: Patrick Cordier, Uli Faul

09.15 – 09.30 **Julien Durinck, Alexandre Legris, Patrick Cordier**
First-principles calculations of ideal shear strength of Forsterite

09.30 – 09.45 **Hélène Couvy, Dave Rubie, Dan Frost, William Durham, Yanbin Wang, Patrick Cordier**
Deformation texture in wadsleyite and ringwoodite:
Implications for the seismic anisotropy of the transition zone

09.45 – 10.00 **David Dobson, Philip Meredith, Florian Heidelbach**
Aseismic remobilisation of faults during the olivine-wadsleyite transition

10.00 – 10.15 **Nynke Keulen, Holger Stuenitz, Renee Heilbronner**
The influence of temperature, time, fluids and strain on the texture of cataclasites:
Grain size reduction versus grain growth in experimentally deformed granitoids

10.15 – 10.45 **COFFEE AT THE COFFEE CORNER IN THE EXHIBITION AREA**

S03 Element and isotope partitioning

Conveners: Stephen Foley, Massimo Tiepolo

10.45 – 11.00 **Jon Wade, Bernie Wood**
Metal/Silicate element partitioning –
its not the pressure that matters but the heat of the moment!

11.00 – 11.15 **Craig Finnigan, James Brenan**
Experimental Evidence for the Formation of PGE Alloy Inclusions in Chromite
by Local Reduction

11.15 – 11.30 **Cornelia Bockrath, Chris Ballhaus, Astrid Holzheid**
PGE fractionation during mantle melting:
Influence of pressure and temperature on monosulfide solidus

11.30 – 11.45 **Massimo Tiepolo, Alberto Zanetti, Stephen Foley, Roberta Oberti, Riccardo Vannucci**
Light lithophile (Li, Be and B) and Volatile (H_2O, F, Cl) Elements.
Mineral/liquid and mineral/mineral partitioning at upper mantle conditions.

11.45 – 12.00 **Axel Liebscher, Georg Schettler, Wilhelm Heinrich**
Liquid - Vapor Fractionation of B and Br in H_2O-NaCl Systems: An Experimental Study

12.00 – 12.15 **Jon Blundy, Richard Brooker**
Chemical discrimination between melts from the lower crust and slab

12.15 – 12.30 **Richard Brooker, Veronika Heber, Simon Kelley, Bernie Wood**
Noble Gas Partitioning During Mantle Melting:
Possible Retention of He & Ar relative to U, Th & K.

12.30 – 12.45 **POSTER PREVIEW** **Chair: Stephen Foley**

12.45 – 13.45 **LUNCH**

13.45 - 15.15 **REFRESHMENTS AND POSTER SESSION**

“H III” Lecture Hall – Wednesday 7 April 2004

S04 Experimental phase equilibria

Conveners: **Stefano Poli, Igor Ryabchikov, Peter Ulmer**

15.15 – 15.30 **Lia Kogarko, Anatoly Slutsky**
Carbonate-silicate-sulphide liquid immiscibility in the metasomtized upper mantle

15.30 – 15.45 **Evgeniy Osadchii, Olga Rappo**
Determination of standard thermodynamic properties of ternary sulfides in Ag-Au-S and Ag-Au-Se Systems by galvanic cell technique

15.45 – 16.00 **Fleurice Parat, Francois Holtz**
The effect of sulfur on phosphorus solubility and sulfur partitioning between apatite and melt

16.00 – 16.15 **Klaus – Dieter Grevel**
Thermodynamic data for high pressure phases in the system CaO-MgO-Al_2O_3-H_2O

“H V” Plenary Lecture Hall – Wednesday 7 April 2004

16.20 – 16.30 **EMU MEDAL PRESENTATION 2004**

16.30 – 17.00 **Hans Keppler** – invited : *The properties of subduction zone fluids*

S03 Element and isotope partitioning

Conveners: **Stephen Foley, Massimo Tiepolo**

15.15 – 15.30 **Stephen Foley, Riccardo Vannucci, Dorrit Jacob, Massimo Tiepolo**
The geochemical signature and origin of Archean TTG gneisses: Melting of amphibolite or eclogite?

15.30 – 15.45 **Rainer Thomas, Christian Schmidt, Wilhelm Heinrich**
Boron Speciation in Aqueous Fluids at 22 to 600 ºC and 0.1 to 3000 MPa

15.45 – 16.00 **Veronika S. Heber, Richard A. Brooker, Simon P. Kelley, Bernard J. Wood**
Diffusion behaviour of noble gases in mantle minerals: High resolution UV laser depth profiling

16.00 – 16.15 **Michael Toplis**
Thermodynamic assessment of equilibrium in olivine saturated experiments

16.20 – 16.30 **EMU MEDAL PRESENTATION 2004**

16.30 – 17.00 **Hans Keppler** – invited : *The properties of subduction zone fluids*

Poster session
Exhibition and poster area - Wednesday, 7 April 2004

S 02 Deformation processes

SO2PO1

Nikolay Ovsyuk
Role of Internal Pressure in a Ferroelastic Phase Transition

SO2PO2

Paul Raterron, Li Li, Jiuhua Chen, Patrick Cordier, Donald Weidner, Heinrich Siemes
Activity of Olivine Slip Systems at High Pressure and Temperature

SO2PO3

Heinrich Siemes, Birgit Klingenberg, Erik Rybacki, Michael Naumann, Wolfgang Schaefer, Ekkehard Jansen
Glide systems of hematite single crystals in deformation experiments

SO2PO4

Dave Rubie, Hélène Couvy, Dan Frost, William Durham, Yanbin Wang, Patrick Cordier
Using the D-DIA to study changes in deformation mechanism in forsterite at high pressure

SO2PO5

Florian Heidelbach
The effect of large shear deformation on the fabric and the seismic anisotropy of polycrystalline magnesiowüstite

S 03 Element and isotope partitioning

SO3PO1

Vitaliy Chevychelov, Georgy Zaraisky, Sergey Borisovsky, Dmitriy Borkov
Partitioning of Ta and Nb between magmatic melt and aqueous (K,Na,H)F-containing fluid. Effects of temperature and chemical composition of the melt

SO3PO2

Megumi Kondo, Shuji Matsu´ura, Fachroel Aziz, Sudijono, Eiji Fujimori, Hideyuki Sawatari, Hiroki Haraguchi
Stratigraphic Characterization of Fossil Bones by Trace Elements

SO3PO3

Lianxing Gu
Remobilization Experiment of Chalcopyrite in Massive Sulphide Ore by NaCl Solution at 362ºC and a Differential Stress

SO3PO4

Nataliya Suk
Liquid Immiscibility of Silicate-Salt Systems Due to the Problem of Ore-Bearing in Alkaline Magmatic Complexes

SO3PO5

Edgar Dachs, Christian Bertoldi
Low-Temperature Heat Capacities of mg-sized Mineralogical Samples

SO3PO6

Vitali Zakhartchouk, Michael Burchard, Thomas Fockenberg, Walter V.Maresch
The solubility of natural spinel in supercritical water: Experimental determination

SO3PO7

Thomas Fockenberg, Michael Burchard, Walter V. Maresch
Solubilities of calcium silicates at high pressures and temperatures

SO3PO8

Pavel Azimov
The Behaviour and Stability of Zircon in Fluid-Bearing Metamorphic Systems

SO3PO9

Horst Marschall, Thomas Ludwig
Low-Boron Contest: Minimising surface contamination and analysing boron concentrations at the ng/g-level by SIMS

SO3P1O

Alex Asavin, Valera Senin, Ludmila Lazutkina
Coefficient distribution Zr Hf in high alkaline ultrabasic melts - melilitic nephelenite

SO3P11

Rainer Thomas, Christian Schmidt, Wilhelm Heinrich
Boron Speciation in Aqueous Fluids at 22 to 600ºC and 0.1 to 3000 MPa

SO3P12

Stefan Prowatke, Stephan Klemme, Thomas Ludwig
Experimental constraints on the partitioning of trace elements between apatite and silicate melts

SO3P13

Kenneth Koga, Isabelle Daniel, Bruno Reynard
Trace element distribution between antigorite and fluid at the condition relevant to subduction zone tectonic settings

S 04 Experimental phase equilibria

SO4P01

Patrizia Fumagalli
Subsolidus phase relations in hydrous ultramafic systems up to 6.5 GPa

SO4PO2

Taras Bul´bak, Gennady Shvedenkov
Experimental studies of Mg-cordierite saturation of the C - H - O - N fluid components

SO4PO3

Raquel Alonso Perez, Peter Ulmer, Othmar Müntener, Alan B.Thompson
Role of Garnet Fractionation in H_2O-undersaturated Andesite Liquids at high Pressure

SO4PO4

Anne Feenstra, Silke Sämann, Bernd Wunder
An Experimental Study of Fe solubility in corundum up to 40 kbar and 1300 °C

SO4PO5

Ada Crottini, Stefano Poli
Hydrates, Carbonates and Graphite in Subducted MORB Eclogites:
Experimental Constraints to 5 GPa

SO4PO6

Vladimir Balitsky, Liudmila Balitskaya, Sergey Balitsky, Carlo Aurisicchio, Maria Roma
Silica and alumina transfer in hydrothermal fluids and simultaneous growth of quartz and topaz single crystals

SO4PO7

Sergei Simakov, Alexandr Kalmykov, Lev Sorokin, Elena Grebenshchikova
Chaoite synthesis at lower temperatures and pressures

SO4PO8

Igor Ryabchikov
Equilibria Clinopyroxene-Melt and Derivation of Carbonatites from Parent Meimechites

SO4PO9

Olga Rappo, Evgeniy Osadchii
Determination of Thermodynamic Properties of Sphalerite and (Zn,Fe)S Solid Solution at 780-1100 K by Galvanic Cell Technique

SO4P1O

Eva Ebert, Timothy L. Grove
Phase Relations of a Tibetan Shoshonite Lava:
Constraints on the melting conditions and the source rock

SO4P11

Viktor Zaitsev, Leonid Krigman, Lia Kogarko
Pseudobinare phase diagram lamprophyllite - nepheline

SO4P12

Inkook Bae, Soochun Chae, Youngnam Jang, Tatiana Ioudintseva, Sergey Yudintsev
Formation of the actinide hosts with garnet and fluorite-type structures through CPS route

SO4P13

Milan Drabek
Solid solutions within the quaternary system, Co-Fe-Ni-P

SO4P14

Anna Vymazalova, Milan Drabek
Phase equilibria in the Pd-Sn-Te system

SO4P15

Vera Koreneva, George Zaraisky
Experimental investigation of the solubility of the zircon with high contents of the hafnium

SO4P16

Carlo Aurisicchio, Maria Antonietta Roma, Paolo Ballirano, Vladimir S.Balitsky, Ludmila V. Balitskaya
Hydrothermal Synthesis of Primary Li- F-rich Micas

SO4P17

Sandrin T. Feig, Jürgen Koepke, Jonathan E. Snow
Effect of H_2O and fO_2 on the phase relations of a gabbroic system

SO4P18

Vladimir Karzhavin, Zinaida Voloshina, Valentin Petrov
Physic – chemical modeling PGE of containing multisystem ore containing of horizon Pansky intrusive

SO4P19

Teddy Parra, Bruno Goffe, Veronique Barlet
Provisional standard state properties of xonotlite, truscottite and 14 Å tobermorite

SO4P2O

Teddy Parra, Olivier Vidal, Thomas Theye
Experimental constraints on the Tschermak substitution of Fe-Chlorites

SO4P21

Renat Almeev, Alexey Ariskin, Pavel Pletchov
Calculations of mineral-melt equilibria in tholeiitic system:
MELTS versus COMAGMAT

SO4P22

Leonid Krigman, Alexander Dorfman, Donald Dingwell
Experimental Study of the Phosphate - Aluminosilicate Liquid Immiscibility in the Melts of Various Acidity

SO4P23

Tonny B. Thomsen, Max W. Schmidt
The biotite to phengite transition and mica-dominated melting in carbonate-saturated model systems

SO4P24

Holger Steinberg, Gerhard Brey
Solubility of Potassium and Phosphorous in Ca-Silicates from 2 to 13 GPa

SO4P25

Stephen Bell, Jon Blundy
Partial melting of carbonated eclogite in the system CMAS-CO_2

SO4P26

Stephan Buhre, Gerhard Brey
Al, Li and REE solubility and partitioning between CAS phases