### EGU General Assembly 2011
#### Programme Group Programme
**EMRP – Earth Magnetism & Rock Physics**

<table>
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<th>Date</th>
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<td><strong>Monday, 04 April</strong></td>
<td>TS2.2/EMRP13, TS2.3/EMRP14, GMPV17</td>
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<td><strong>Tuesday, 05 April</strong></td>
<td>EMRP1, EMRP7, ML18</td>
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<td><strong>Wednesday, 06 April</strong></td>
<td>EMRP9/TS2.9, EMRP10/TS2.1q, EMRP11/GMPV30/NH10.5/TS2.8</td>
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<td><strong>Thursday, 07 April</strong></td>
<td>GD7.1/EMR12/GMPV18/SM4.6, EMRP2, EMRP3/PS10.3, EMRP8, ML19, TS2.6, TS3.1</td>
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<tr>
<td><strong>Friday, 08 April</strong></td>
<td>G1.2/EMRP4, EMRP5, EMRP6, SSS2.2/EMRP15/GM10.2/PS7.0</td>
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Monday, 04 April

**TS2.2/EMRP13 – Long and short term fault zone weakening processes (co-organized) – Orals**
Convener: Nicola De Paola | Co-Conveners: Cristiano Collettini, Tom Mitchell, Giulio Di Toro
Room: 28
Chairperson: Nicola De Paola, Thomas Mitchell

15:30–15:45 EGU2011-9901
John Suppe and En-Chao Yeh
Limits to large-scale fault strength: going directly from geometry to strength using wedge mechanics

15:45–16:00 EGU2011-4125
Giulio Di Toro, Raehee Han, Takehiro Hirose, Nicola De Paola, Stefan Nielsen, Kazuo Mizoguchi, Fabio Ferri, Massimo Cocco, and Toshihiko Shimamoto
Fault lubrication during earthquakes

16:00–16:15 EGU2011-2797
Yehuda Ben-Zion and Ilya Zaliapin
Observational tests of dynamic bimaterial effects on natural faults with along-strike symmetry properties of aftershocks

16:15–16:30 EGU2011-12122
John D. Platt, James R. Rice, and John W. Rudnicki
Strain localization within a fluid saturated fault gouge layer during seismic shear

16:30–16:45 EGU2011-5906
Philip Meredith, Michael Heap, Patrick Baud, Sergio Vinciguerra, Andrew Bell, and Ian Main
Brittle creep in rocks: from laboratory to crustal time scales.

16:45–17:00 EGU2011-12634
Jean-Philippe Avouac, Sylvain Barbot, Nadaya Cubas, and Nadia Lapusta
Spatial variations of fault friction: observations and implication for fault dynamics

**TS2.2/EMRP13 – Long and short term fault zone weakening processes (co-organized) – Posters**
Convener: Nicola De Paola | Co-Conveners: Cristiano Collettini, Tom Mitchell, Giulio Di Toro
Hall XL | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: Giulio Di Toro, Cristiano Collettini

XL300 EGU2011-711
Amy Clare Ellis, Ernest Rutter, Katharine Brodie, and Julian Mecklenburgh
Influence of Hydrothermally Generated Talc Upon Fault Behaviour

XL301 EGU2011-7128
Nicolas Brantut, Jean Sulem, and Alexandre Schubnel
Effect of dehydration reactions on the stability of creeping faults

XL302 EGU2011-7402
Cecilia Viti and Cristiano Collettini
Fault rocks evolution and deformation processes along carbonate-bearing thrust faults

XL303 EGU2011-7676
Giovanni Chiodini, Carlo Cardellini, Stefano Caliro, Francesco Frondini, Salvatore Inguaggiato, and Fausto Matteucci
Geochemical evidences for and characterization of CO2 rich gas sources in the epicentral area of the Abruzzo 2009 earthquakes.

XL304 EGU2011-8261
Nicola De Paola, Giovanni Chiodini, Takehiro Hirose, Carlo Cardellini, Stefano Caliro, and Toshihiko Shimamoto
The geochemical signature of carbonate-hosted seismogenic faults

XL305 EGU2011-8335
Nicola De Paola and Jeroen van Hunen
The Fluid Flow Evolution During the Seismic Cycle Within Overpressured Fault Zones

XL306 EGU2011-9049
W. Ashley Griffith, Tom M. Mitchell, and Giulio Di Toro
In situ coseismic stiffness of fault rocks calculated using pseudotachylyte injection veins

XL307 EGU2011-9996
Brice Lacroix, Henri Leclère, François Souquière, Martine Buatier, and Pierre Labaume
Weakening processes in thrust faults: example of the Monte Perdido thrust fault (South Pyrenean orogenic prism, Spain).
**XL308**  EGU2011-10483

*Steven Smith*, Andrea Billi, Giulio Di Toro, Andre Niemeijer, and Elena Spagnuolo

Fossil Earthquakes in Limestone? Natural Clast-Cortex Grains and Constraints from Low- to High-Velocity Friction Experiments

**XL309**  EGU2011-11523

*Cristiano Colletti*, Brett Carpenter, Marco M Scuderi, and Chris Marone

Heterogeneous frictional properties of natural carbonate-bearing normal faults

**XL310**  EGU2011-12070

*Marc Andre Strutz*, Tom Mitchell, and Jörg Renner

Experimental Measurements of Fault Wear and Permeability Evolution along Faults during Progressive Slip

**XL311**  EGU2011-12639

*Nadaya Cubas*, Jean-Philippe Avouac, Yves Leroy, and Pauline Souloumiac

Evidence for locally lower friction within the high slip area of the 2010 Maule earthquake: dynamic weakening as an explanation of low apparent fault friction.

**XL312**  EGU2011-12748

*Elena Spagnuolo*, Steven Smith, André Niemeijer, Stefan Nielsen, and Giulio Di Toro

Sliding behavior of calcite and dolomite marbles at seismic deformation conditions

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**TS2.3/EMRP14 – Fracturing, sealing and fluid flow in reservoirs and fault zones (co-organized) – Orals**

*Convener: Daniel Koehn | Co-Conveners: Aisling Soden, Laurent Geoffroy, Thomas Wagner, Einat Aharonov, Klaus Gessner, Francois Renard, Heather Moir, Heijn van Gent, Gianreto Manatschal, Ulrich Glasmacher*

**Room: 28**

**Chairperson:** Daniel Koehn

08:30–08:45  EGU2011-7773

*Yves Gueguen*, Jérôme Fortin, and Audrey Ougier-Simonin

Permeability of cracked rocks

08:45–09:00  EGU2011-6654

*Stephen Miller* and Boris Galvan

Modeling the dynamical interaction between fracture development, stress transfer, fluid flow, and chemical precipitation

09:00–09:15  EGU2011-5672

*Filiz Aflar*, Sonja Leonie Philipp, and Hildegard Westphal

Fracture propagation and reservoir permeability in limestone-marl alternations of the Jurassic Blue Lias Formation (Bristol Channel Basin, UK)- a multidisciplinary approach

09:15–09:30  EGU2011-2417

*Heather Moir*, Rebecca Lunn, and Zoe Shipton

Modelling Fault Damage Zone Evolution: Effect of heterogeneity.

09:30–09:45  EGU2011-889

*Nicolas Beaudoin*, Nicolas Bellahsen, Laurent Emmanuel, and Olivier Lacombe

Paleofluid flow and basement-cored folding: Combined geochemical and microstructural studies at Sheep Mountain Anticline (Wyoming, USA)

09:45–10:00  EGU2011-3603

*Janos L. Urai*, Werner Kraus, Steffen Abe, Max Arndt, Simon Virgo, Marc Holland, Rainer Telle, and Thorsten Tonnesen

How good is the glue? An experimental and numerical investigation of the mechanics of crack seal processes in vein networks.

**COFFEE BREAK**

**Chairperson:** Thomas Wagner

10:30–10:45  EGU2011-12970

*Renaud Toussaaint*, Marcus Ebner, Daniel Koehn, Einat Aharonov, Maor Kaduri, Alexandra Rolland, Michael Heap, Philip Meredith, Jean Schmittbuhl, and Patrick Baud

Stylolites in carbonate rocks: morphologies and their effect on rock permeability.

10:45–11:00  EGU2011-4236

*Leehee Laronne Ben-Itzhak*, Amir Sagy, and Einat Aharonov

Large scale field measurements of stylolites: stylolite lateral extent and roughness

11:00–11:15  EGU2011-4558

*Einat Aharonov*, Renaud Toussaaint, and Leehee Laronne Ben-Itzhak

Upper bound on stylolite roughness as indicator for the duration and amount of dissolution
11:15–11:30  EGU2011-13519
Michael Kettermann, Sohrab Noorsalehi-Garakani, Heijn van Gent, Stefen Abe, and Janos Urai
Modeling of dilatant fractures in homogenous, cohesive material and in the presence of preexisting fractures

11:30–11:45  EGU2011-10102
Olivier Lengliné, Jean Schmittbuhl, Jean Elkhoury, Jean-Paul Ampuero, Renaud Toussaint, and Knut Jorgen Maløy
Up-scaling of the fracture energy in heterogeneous media during brittle creep experiments

11:45–12:00  EGU2011-8637
Andrea Rustichelli, Emanuele Tondi, Fabrizio Agosta, Chiara Invernizzi, and Maurizio Giorgioni
Depositional and diagenetic factors affecting the development of bed-parallel structures in Oligo-Miocene ramp carbonates (Maiella Mountain, central Italy)

LUNCH BREAK

Chairperson: Heijn van Gent

13:30–13:45  EGU2011-3615
francois cornet
Forced Fluid flow in extensional domains

13:45–14:00  EGU2011-7995
Suzanne Picazo, Gianreto Manatschal, and Mathilde Cannat
Exhumed mantle along an Ocean Continent Transition: the exemple of the Totalp ophiolite in SE Switzerland.

14:00–14:15  EGU2011-1813
Fabrizio Balsamo, Hilario Bezerra, Fabrizio Storti, and Marcela Veira
Influence of faulting on iron oxide concretion and Liesegang band patterns in poorly lithified sandstones of the Barreiras formation, NE Brazil: inferences for fluid flow in clastic reservoirs

14:15–14:30  EGU2011-3655
Max Arndt, Simon Virgo, Zoé Sobisch, Marc Holland, and Janos L. Urai
Field observations and interpretation of remote sensing data from an exhumed high pressure carbonate reservoir, Jebel Shams, Oman Mountains

14:30–14:45  EGU2011-11729
Aisling Soden and Zoe Shipton
Subsurface fault zone architecture controlled by host rock heterogeneity

14:45–15:00  EGU2011-8572
Enrique Gomez-Rivas, Paul D. Bons, Philipp Blum, Daniel Koehn, and Thomas Wagner
Numerical simulation of dynamic crustal-scale fluid flow

TS2.3/EMRP14 – Fracturing, sealing and fluid flow in reservoirs and fault zones (co-organized) – Posters
Convener: Daniel Koehn | Co-Conveners: Aisling Soden, Laurent Geoffroy, Thomas Wagner, Einat Aharonov, Klaus Gessner, Francois Renard, Heather Moir, Heijn van Gent, Gianreto Manatschal, Ulrich Glasmacher

Hall XL | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: Daniel Koehn

XL313  EGU2011-1285
Inna Balanyuk, Anatoly Dmitrievsky, Sergey Shapovalov, Olga Chaikina, and Tatiana Akivis
Role of Fluids in Spreading Zones of Sakhalin Island and Formation of Hydrocarbons

XL314  EGU2011-4273
Zoltán Komoróczki, Heijn van Gent, and Janos L. Urai
Distribution of sub-seismic deformation near faults - Implications for Tight Gas production

XL315  EGU2011-1286
Inna Balanyuk, Anatoly Dmitrievsky, Sergey Shapovalov, Olga Chaikina, and Tatiana Akivis2
Fluid Dynamics Model of the Formation of Giant Gas and Gas Condensate Deposits

XL316  EGU2011-1915
Lespinasse Marc, Petrov Vladislav, Cuney Michel, and Shukin Serguei
Microfissuring, host rock heterogeneities and SNF storage potential at the Krasnokamensk area, NE Transbaikalia

XL317  EGU2011-3573
Simon Virgo, Max Arndt, Paul Stenhouse, Stephen F. Cox, Christoph Hilgers, and Janos L. Urai
Evolution of a crack-seal calcite vein network in limestone: a high resolution structural, microstructural and geochemical study from the Jebel Akhdar high pressure cell, Oman Mountains
XL318  EGU2011-3612  
**Ben Laurich**, Max Arndt, Simon Virgo, Alexander Raith, Patrick Wüstefeld, Sebastian Thronberens, and Janos L. Urai  
Insights in dynamics of high-pressure cells based on high-resolution outcrop panoramas: A geometry database for calcite vein networks in the Oman Mountains.

XL319  EGU2011-3617  
**Christine Souque**, Rob J. Knipe, Philip Jones, and John Lorenz  
Fracture corridors and fault interaction in a context of polyphase deformation - Example from the Chalks of the Isle of Thanet Anticline, Kent, England.

XL320  EGU2011-4663  
**Masakazu Niwa**, Hideki Kurosawa, and Tsuneari Ishimaru  
Spatial distribution and characteristics of fracture zones in heterogeneous lithologies and long-term, multiple, fault re-activations.

XL321  EGU2011-5083  
**Caroline Mehl** and Isabelle Cojan  
Geometrical 3D characterisation of sand injections in a fracture network and onset dynamics, Bevons South, East France.

XL322  EGU2011-5626  
**Jens-Oliver Schwarz** and Frieder Enzmann  
Impact of fracture geometry on fluid flow.

XL323  EGU2011-5699  
**Jens-Oliver Schwarz** and Daniel Koehn  
Geometry of and fluid flow in bedding parallel crack-seal veins.

XL324  EGU2011-5813  
**Achille Marsala** and Thomas Wagner  
Fluid chemistry of metamorphic quartz vein systems, Rhenish Massif (Germany).

XL325  EGU2011-6207  
**Conny Zeeb**, Paul D. Bons, Enrique Gomez-Rivas, Lena Stark, David Grabowski, and Philipp Blum  
Uncertainty analysis for the characterisation of the discontinuity networks.

XL326  EGU2011-6473  
**Daniel Koehn**, Jens-Oliver Schwarz, and Renaud Toussaint  
Compaction history, burial depth and tectonics derived from stylolites in the Oman mountains.

XL327  EGU2011-6820  
**Irfan Ghani** and Daniel Koehn  
Hydrofracture Formation.

XL328  EGU2011-7030  
**Herbert Wallner** and Harro Schmeling  
Progress in Melt Induced Weakening Concept Driving Rift Induced Delamination.

XL329  EGU2011-7241  
**Aurore Franco**, Catherine Dorbath, Laurent Geoffroy, Kristjan Agustsson, Cecile Doubre, and Olafur Flovenz  
Local earthquake tomography of a geothermal area in Reykjanes Peninsula (Iceland): Influence of nature, location and migration of crustal fluids on the seismicity.

XL330  EGU2011-7930  
**Zvi Karcz**, Ovunc Mutlu, Rich Albert, and Jim DeGraff  
The Formation and Propagation of Stylo-Fractures.

XL331  EGU2011-8406  
**Yves Missenard**, Muriel Rocher, Lisa Casteley, Philippe Robion, Alexis Grare, Audrey Bertrand, Pierre Vergely, Antonio Benedicto, Marc Edward Cushing, and Isabelle Techer  
Sealing capacity of clays in multilayer systems: a field study of fracture-fluid flow relationships (Blue Clay formation, Maltese Islands).

XL332  EGU2011-8926  
**Jean-Marc Daniel**, Mickael Barbier, Khalid Amrouch, Jean-Paul Callot, Youri Hamon, and Olivier Lacombe  
Impact of fracturing stratigraphy on paleo-hydrodynamics, the Madison Formation case study (Bighorn Basin, Wyoming, USA).

XL333  EGU2011-10095  
**Christoph Tuitz**, Ulrike Exner, Bernhard Grasemann, and Alexander Preh  
Fault related cracking of pebbles in unconsolidated sediments (SE Vienna Basin, Austria).

XL334  EGU2011-10208  
**Vincent Roche**, Catherine Homberg, and Muriel Rocher  
Control of sub-horizontal faults on normal fault growth and architecture.

XL335  EGU2011-11977  
**Cynthia Garibaldi** and Laurent Geoffroy  
Fluid circulation within a volcanotectonic system inferred from numerical hydrothermal modelling: application to the Ghoubbet-Asal Rift (Djibouti, East Africa).
GMPV17 – Alteration, very-low grade metamorphism and late fluid and porosity evolution of volcanic rocks (co-listed) – Posters
Convener: Hans-Joachim Massonne | Co-Conveners: Leo A. Hartmann
Halls X/Y | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: L.A. Hartmann

XY297 EGU2011-387
Juan Cruz Martínez, Jorge A. Dristas, and Hans-J. Massonne
Hydrothermal fluid flow evidenced by mineral alteration assemblages and chemistry of metamorphic rocks, sediments and volcanics on top of the southernmost Rio de la Plata craton, eastern Argentina

XY298 EGU2011-605
Emel Abdio?lu, Mehmet Arslan, and Cem Yücel
Mineralogy and Chemistry of Zeolite Minerals in Tertiary Alkaline Volcanics around Trabzon Area, NE Turkey

XY299 EGU2011-1719
olivier vidal, armelle baldeyrou, bertrand fritz, daniel beaufort, and bruno lanson
Experimental study of the mineral evolution and associated mass transport under thermal gradient. Application to the thermal stability of low-temperature phyllosilicates

XY300 EGU2011-3049
Hans-Joachim Massonne
Alteration of a subvolcanic rock from the Rhenish Massif - complete or partial equilibration at very-low grade metamorphism?

XY301 EGU2011-3236
Leonardo Manara Rosenstengel and Léo Afraneo Hartmann
Low-temperature alteration of basalts leading to world-class deposits of amethyst geodes in the Ametista do Sul mining district, southernmost Brazil

XY302 EGU2011-3249
Juliana Silva and Léo Afraneo Hartmann
Discovery and description of gossans above amethyst deposits in altered volcanic rocks of the Paraná province, South America

XY303 EGU2011-3253
Sandro Duarte, Léo Hartmann, Juliana Pertille, and Karine Arena
Alteration, very-low grade metamorphism and geochemical modification of basaltic rocks in the Quaraí amethyst district, Paraná volcanic province, Brazil

XY304 EGU2011-3783
Marcus V. D. Remus, Léo A. Hartmann, and João A. Toniolo
Low-temperature, hydrothermal base and precious metal deposits hosted by volcanic-sedimentary sequences of the Camaquã basin, southernmost Brazil

XY305 EGU2011-3883
Viter Pinto and Léo Hartmann
Epigenetic hydrothermal origin for the copper mineralization in the Vista Alegre district, Paraná volcanic province, southernmost Brazil

XY306 EGU2011-4245
Leo A. Hartmann and Hans-Joachim Massonne
Silicate to silica alteration in basalts and rhyodacites of the Paraná volcanic province and formation of giant amethyst geodes

XY307 EGU2011-4375
Farhad Ahmadnejad and Batoul taghipour
Geology and petrographic studies of the hydrothermal altered rocks in the Qolqoleh gold deposit, Kurdistan province, Iran

XY308 EGU2011-8810
Joacir Thadeu Nascimento Medeiros, Leo Afraneo Hartmann, and Larissa Teixeira Petruzzellis
Cavity opening and amethyst geode formation in altered basaltic rocks of the Paraná province, South America, evaluated with the finite element method

XY309 EGU2011-8866
Arne Willner, Hans-Joachim Massonne, Sandra M. Barr, and Chris E. White
Very-low- to low-grade metamorphism of mafic and felsic volcanic rocks in Avalonia of SE Cape Breton Island (Nova Scotia; Canada) as a result of collision
XY310  EGU2011-9283
Polona Kralj and Peter Kralj
Hydrothermal zeolites and related authigenic minerals in the Upper Oligocene to Lower Miocene Smrekovec Volcanic Complex

XY311  EGU2011-11815
Caetano Juliani, Carlos Marcello Dias Fernandes, Lena Virgínia Soares Monteiro, Bruno Lager, and Carlos Mario Echeverri-Misas
Very low-grade metamorphism and very well preserved epithermal mineralization in the Paleoproterozoic Uatumã LIP, southern Amazonian craton, Brazil
### Tuesday, 05 April

#### EMRP1 – Open session on Geomagnetism and Paleomagnetism – Orals

**Convener:** Georgios Balasis | **Co-Conveners:** Leonardo Sagnotti  
**Room:** 42  
**Chairperson:** Karl Fabian, Vincent Lesur

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<td>16:00–16:15</td>
<td>EGU2011-7877</td>
<td><strong>Evdokia Tema</strong> and Despoina Kondopoulou</td>
<td>8000 years of geomagnetic field Secular Variation in the Balkan Peninsula based on archaeomagnetic data</td>
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<td>16:15–16:30</td>
<td>EGU2011-1546</td>
<td><strong>Leonardo Sagnotti</strong>, Patrizia Macri, Renata Lucchi, Michele Rebesco, and Angelo Camerlenghi</td>
<td>A Holocene paleosecular variation record from the southern Svalbard continental margin</td>
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<td>16:30–16:45</td>
<td>EGU2011-9705</td>
<td><strong>Mirka Trajanova</strong></td>
<td>Different view to the paleomagnetic results from the Pohorje Mountains, northern Slovenia</td>
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<td>16:45–17:00</td>
<td>EGU2011-2848</td>
<td><strong>Mualla Cinku</strong>, Mumtaz Hisarli, Naci Orbay, Timur Ustaömer, Oleg Rusakov, Ann Hirt, and Nurdan Say?n</td>
<td>A paleomagnetic study from Mesozoic rocks in the Crimean Peninsula; Evidence of Albian/Aptian remagnetization</td>
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#### EMRP1 – Open session on Geomagnetism and Paleomagnetism – Posters

**Convener:** Georgios Balasis | **Co-Conveners:** Leonardo Sagnotti  
**Hall A | Display Time 08:00–19:30**  
**Author in Attendance:** 17:30–19:00  
**Chairperson:** Leonardo Sagnotti

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<tr>
<td>A1</td>
<td><strong>Enkelejda Qamili</strong>, Angelo De Santis, and Gianfranco Cianchini</td>
<td>Shannon information of the geomagnetic field for the past seven millennia and implications on the present field understanding</td>
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<td>A2</td>
<td><strong>Tania Stanton</strong>, Ian Snowball, Raimund Muscheler, Peter Riisager, Mads Faurschou Knudsen, Andreas Nilsson, Thorvaldur Thordarson, and Peter Reid</td>
<td>Identifying real and reliable features of the geomagnetic field - a Nordic study</td>
</tr>
<tr>
<td>A3</td>
<td><strong>Annika Ferk</strong>, Roman Leonhardt, Joanna Denton, Hugh Tuffen, Kai-Uwe Hess, and Donald B. Dingwell</td>
<td>Paleointensities of silicic volcanic glass: Influence of emplacement rotations and devitrivication</td>
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<tr>
<td>A4</td>
<td><strong>Evdokia Tema</strong>, Fulvio Fantino, Enzo Ferrara, Alessandro Lo Giudice, Federico Barello, and Moira Bertasa</td>
<td>Combined archaeomagnetic and thermoluminescence dating of a kiln excavated at Fontanetto Po (Northern Italy)</td>
</tr>
<tr>
<td>A5</td>
<td><strong>Souda Ech-Chakrouni</strong>, Jozef Hus, Simo Spassov, and Raoul Geeraerts</td>
<td>Limestone as an archaeomagnetic geomagnetic field recorder.</td>
</tr>
<tr>
<td>A6</td>
<td><strong>Naoto Ishikawa</strong>, Akira Hayashida, Yoshihiko Tanigawa, and Keiji Takemura</td>
<td>Magnetic behaviors of sediment samples including maghemitized magnetite during progressive thermal demagnetization experiments of artificial remanences</td>
</tr>
<tr>
<td>A7</td>
<td><strong>Lutz Kubler</strong>, Thomas Lundqvist, and Jan-Olof Svedlund</td>
<td>The Särna ring, a circular magnetic anomaly in the county of Dalarna, Sweden</td>
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<tr>
<td>A8</td>
<td><strong>Anatoly Mashukov</strong> and Alla Mashukova</td>
<td>The magnetic properties of Norilsk type ores</td>
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<tr>
<td>A9</td>
<td><strong>Suzanne McEnroe</strong>, Karl Fabian, Peter Robinson, Noboyushi Miyajima, Phillip Schmidt, and Dave Clark</td>
<td>Reduction-exsolution of magnetite in ilmenite: Phase interfaces and exchange coupling</td>
</tr>
</tbody>
</table>
Correlation of microstructures and exsolution lamellae in natural pyrrhotites and magnetic properties

Dennis Harries, Karl Fabian, Kilian Pollok, and Suzanne A. McEnroe

A11

EGU2011-12818

Karl Fabian, Valera P. Shcherbakov, Peter Robinson, and Suzanne A. McEnroe

Geometric mean-field models for ilmenite-hematite solid solutions

A12

EGU2011-13542

Marta Neres, Eric Font, Pedro Terrinha, and Jorge Miranda

Kinematics of Iberia during Cretaceous: Reconciling Paleomagnetic and Marine Magnetic Anomalies

A13

EGU2011-2572

Mohamed El-M. Derder, Bernard Henry, Mohamed Ammena, Boualem Bayou, Said Maouche, Jean Besse, and Mohamed Ayache

Block rotation tectonics recorded in the miocene magmatic rocks of "Beni Haoua" area (northern Algeria): preliminary paleomagnetic results.

A14

EGU2011-797

Ahmed Saleh

Paleomagnetic study of crystalline rocks to better understand the geologic evolution of Sinai Peninsula, Egypt.

A15

EGU2011-812

Ahmed Saleh

Neoproterozoic Tectonics and Magmatism in the central Eastern Desert of Egypt: Age dating and AMS constrains.

A16

EGU2011-3827

Ulrich Blaha, Basavaiah Nathani, Deenadayalan Kannan, Dnyandev Vaman Borole, and Ramesh Dadu Mohite

Reconstruction of the pollution history of Mumbai mudflat sediments using magnetic, chemical, and 210Pb dating methods

A17

EGU2011-10298

Juan C. Larrasoña, Miriam Gómez-Paccard, Santiago Giralt, and Andrew P. Roberts

Rapid locking of tectonic magnetic fabrics in weakly deformed mudrocks

EMRP7 – Paleointensity of the Earth’s magnetic field: Methods and results – Orals

Convener: Roman Leonhardt | Co-Conveners: Adrian Muxworthy

Room: 42

Chairperson: Muxworthy/Leonhardt

13:30–13:45 EGU2011-5293

Keith Aldridge and David McMillan

Recovery of Geomagnetic Reversals from Relative Paleointensity Data

13:45–14:00 EGU2011-4907

Carlo Laj, Catherine Kissel, Christopher Davies, and David Gubbins

Geomagnetic field intensity and inclination records from Hawaii and the Réunion Island: geomagnetic implications.

14:00–14:15 EGU2011-6016

Andy Biggin

Are systematic differences between thermal and microwave Thellier-type palaeointensity estimates a consequence of multidomain bias in the thermal results?

14:15–14:30 EGU2011-8815

Lennart de Groot, Mark Dekkers, and Tom Mullender

Detecting subtle changes in magnetic state due to heating: implications for paleointensity methods

14:30–14:45 EGU2011-3158

Marilyn Monster, Lennart de Groot, Andrew Biggin, and Mark Dekkers

Comparison between the domain-state-corrected multispecimen and microwave methods using historical lavas from La Palma, Spain

14:45–15:00 EGU2011-12223

Mimi Hill, Florian Stark, Neil Suttie, Megan Thomas, Amy Haynes, and Andy Biggin

Microwave palaeointensity methods for burnt archaeological material

EMRP7 – Paleointensity of the Earth’s magnetic field: Methods and results – Posters

Convener: Roman Leonhardt | Co-Conveners: Adrian Muxworthy

Hall A | Display Time 08:00–19:30

Author in Attendance: 17:30–19:00

Chairperson: Leonhardt/Muxworthy
A18  EGU2011-8869
Thomas Frederichs, Lucia Korff, and Tilo von Dobeneck
Relative paleointensity records of upper Pleistocene marine sediments from the sub-polar North Pacific and the Bering Sea

A19  EGU2011-12002
Roman Leonhardt
Absolute paleointensity determination: An improved phenomenological model

A20  EGU2011-4568
Greig Paterson
Toward a theoretical basis for paleointensity data selection

A21  EGU2011-9164
Adrian Muxworthy and Sam Taylor
Evaluation of the domain-state corrected multiple-specimen absolute palaeointensity protocol: a test of historical lavas from Iceland.

A22  EGU2011-12056
Elisabeth Tauber, Franz Josef Türk, and Roman Leonhardt
Multispecimen and Thellier type paleointensity determinations from postglacial lavas of Snaefell volcano, Iceland

A23  EGU2011-8050
Miriam Gómez-Paccard, Annick Chauvin, Elisabet Beamud, Sonia Gutierrez-Lloret, Victor Cañavate, Mimi Hill, and Philippe Lanos
Improving our knowledge of the rapid geomagnetic field intensity variation observed in Europe around 800 AD: new archeointensity data from Visigothic Spanish potteries

A24  EGU2011-10807
Stephan Koch, Jean Pohl, and Stuart Gilder
Geomagnetic field intensity recorded after impact in the Ries (Germany) meteorite crater

A25  EGU2011-12915
Karl Fabian and Valera P. Shcherbakov
Random walk statistics provides a comprehensive view on geomagnetic polarity interval lengths and field intensity

ML18 – Louis Néel Medal Lecture by Ernest Henry Rutter (co-listed) – Orals
Convener: Mioara Mandea
Room: 36
Chairperson: Mioara Mandea

19:00–20:00  EGU2011-14179
Ernest H. Rutter
Rock deformation in the continental crust (Louis Neél Medallist Lecture)
Wednesday, 06 April

**EMRP9/TS2.9 – Micro-mechanics of brittle faulting (co-organized) – Orals**
Convener: Patrick Baud | Co-Conveners: Alexandre Schubnel, Fabrizio Balsamo

**Room: 42**
Chairperson: Alexandre Schubnel

08:30–08:45 EGU2011-6377
Roger Soliva, Richard Schultz, Gregory Ballas, Alfredo Taboada, Elodie Saillet, Christopher Wibberley, and Antonio Benedico
The relationship between deformation band properties, tectonic regime and burial in porous sandstone

08:45–09:00 EGU2011-6691
Fabio Trippetta, Cristiano Collettini, Sergio Vinciguerra, and Philip G. Meredith
Evolution of mechanical properties under cyclic stress experiments: results and microstructures of Triassic Evaporites

09:00–09:15 EGU2011-6072
Mat?j Pe?, Holger Stüntitz, and Renée Heilbronner
Brittle deformation in shear experiments at elevated pressures and temperatures

09:15–09:30 EGU2011-3300
Marie Violay, Benoit Gibert, David Mainprice, Brian Evans, Philippe Adrien Pezard, and Jean-Marie Dautria
An experimental study of the brittle-ductile transition of basalt under oceanic crust conditions

09:30–09:45 EGU2011-1964
Mathilde Adelinet, Jérôme Fortin, Alexandre Schubnel, and Yves Guéguen
Micro-mechanical characterization of a basaltic geothermal reservoir from laboratory geophysical tools

09:45–10:00 EGU2011-9476
Dion Weatherley
Investigations on the role of microstructure in brittle failure using discrete element simulations

10:00–10:15 EGU2011-3545
David Amitrano
The role of friction and heterogeneity in damage localization.

**EMRP9/TS2.9 – Micro-mechanics of brittle faulting (co-organized) – Posters**
Convener: Patrick Baud | Co-Conveners: Alexandre Schubnel, Fabrizio Balsamo

**Hall A | Display Time 08:00–19:30**
Author in Attendance: 17:30–19:00
Chairperson: Patrick Baud

A1 EGU2011-4736
Alexandre Chemenda
Theory and numerical models of compaction banding

A2 EGU2011-1921
Patrick Baud, Wei Zhu, and Teng-fong Wong
Micromechanical basis for the Coulomb failure parameters

A3 EGU2011-3286
Florent Gimbert, Gael Combe, David Amitrano, and Jérome Weiss
Multi-scale analysis of strain localization within granular materials.

A4 EGU2011-4872
Christian Klimczak, Roger Soliva, Richard Schultz, and Jean Chéry
Growth of deformation bands in a multi-layer sequence: Orange quarry, southern France

A5 EGU2011-9285
Heather Short and Alain Tremblay
Evidence for shear band initiation approximately parallel to the acute and obtuse bisectors of the irrotational lines of flow in a general shear zone

A6 EGU2011-10377
Antonino Cilona, Fabrizio Agosta, and Emanuele Tondi
Preliminary results of the microstructural and textural characterization of compaction bands affecting four porous carbonate formations

A7 EGU2011-816
Ahmed Saleh
The effect of uniaxial compression in the behavior of remanent and induced magnetizations for basaltic rocks from Wadi Abou Terifya, Egypt
A8  EGU2011-10823
Nicolas Brantut, Alexandre Schubnel, and Yves Guéguen
Damage and Rupture Dynamics at the Brittle/Ductile Transition: the Case of Gypsum

A9  EGU2011-10984
Torbjorn Bjork, Alexandre Schubnel, Karen Mair, and Sergio Vinciguerra
Acoustic emission rate stress sensitivity caused by stress perturbations during brittle creep deformation of Fontainebleau sandstone

A10  EGU2011-10134
Ludovit Kubicar
Investigation of water diffusion in porous materials by thermal conductivity sensor.

A11  EGU2011-9326
Pavel Pokatashkin, Andrey Karakin, Pyotr Kuharenko, and Yuri Kuharenko
Dilatancy and compaction of saturated granular media

A12  EGU2011-5605
Filiz Afşar, Hildegard Westphal, and Sonja Leonie Philipp
Influence of sedimentary facies on rock hardness in limestone-marl alternations of the Jurassic Blue Lias Formation (Bristol Channel Basin, UK)

A13  EGU2011-11134
Mandy Duda and Jörg Renner
Dilatancy hardening and water weakening in sandstones

EMRP10/TS2.10 – The transport properties of geomaterials: Theory, modelling, measurement, application and integration (co-organized) – Orals
Convener: Matthew Jackson | Co-Conveners: Harald Milsch, Jérôme Fortin
Room: 42
Chairperson: Matthew Jackson and Jerome Fortin

13:30–13:45  EGU2011-4557
Alexis Maineult, Fernand Lopes, Jean-Jacques Sibilla, Lucille Trevez, and Maria Zamora
Laboratory measurements of self-potential signals induced by displacements of saline fronts

13:45–14:00  EGU2011-8907
Emmanuel David, Jerome Fortin, Alexandre Schubnel, Yves Guéguen, and Robert W. Zimmerman
Frequency, pressure, and pore fluid dependence of elastic wavespeeds: new laboratory measurements on Fontainebleau sandstone

14:00–14:15  EGU2011-3263
Marie Violay, Benoit Gilbert, Pierre Azais, Philippe Adrien Pezard, Gérard Lods, and Olafur Flovenz
Laboratory measurements of basalt electrical conductivity on saturated samples at upper crust conditions: a new electrical HT, HP cell.

14:15–14:30  EGU2011-1958
Aliaksei Pazdniakou and Pierre Adler
Evaluation of poro-elastic responses of porous media by the use of fibre optic sensors.

14:30–14:45  EGU2011-2608
Guido Blöcher, Thomas Reinsch, and Harald Milsch
Multiphase flow, deformation and wave propagation in porous media

14:45–15:00  EGU2011-13168
Marieke Rempe, Thomas Mitchell, Joerg Renner, Stuart Nippress, Yehuda Ben-Zion, Thomas Rockwell, Steven Smith, and Giulio Di Toro
Investigating the Damage Pattern of Fault Zone Rocks by In-Situ Seismic Field Measurements and Laboratory Experiments

15:30–15:45  EGU2011-2191
Brian Berkowitz
On the use of effective parameters to describe transport phenomena in geomaterials

15:45–16:00  EGU2011-8516
Siavash Ghabezloo and Ahmad Pouya
Numerical evaluation of the equivalent permeability of randomly cracked porous media

16:00–16:15  EGU2011-1454
Adeline Pons, David Christian, Jérôme Fortin, Sergei Stanchits, and Jean-Marie Mengus
X-ray imaging during capillary imbibition: a study on how compaction bands impact fluid flow in Bentheim sandstone
16:15–16:30  EGU2011-1733  
**Susanne Hemes**, Guillaume Desbois, Janos L. Urai, Mieke de Craen, Miroslav Honty, and Stéphane Brassinnes  
New technique for pore-space investigations of clay materials: A case study on Boom Clay - reference host formation for geological disposal of radioactive waste in Belgium.

16:30–16:45  EGU2011-6083  
**Manav Tyagi**, Thomas Gimmi, and Sergey Churakov  
Modeling clay micro-structures and computation of their effective diffusion coefficients.

16:45–17:00  EGU2011-9052  
**Julia Schneider**, Peter Flemings, Ruarri Day-Stirrat, and John Germaine  
Insights into pore-scale controls on mudstone permeability and compressibility through resedimentation experiments.

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**EMRP10/TS2.10 – The transport properties of geomaterials: Theory, modelling, measurement, application and integration (co-organized) – Posters**

**Convener:** Matthew Jackson | **Co-Conveners:** Harald Milsch, Jérôme Fortin  
**Hall A | Display Time 08:00–19:30**  
**Author in Attendance: 17:30–19:00**  
**Chairperson:** Jerome Fortin, Harald Milsch and Matthew Jackson

A14  EGU2011-1963  
**Mathilde Adelinet**, Mickaële Le Ravalec, Catherine Dorbath, Jérôme Fortin, and Yves Guéguen  
Microstructure and fluid state in an Icelandic geothermal reservoir from inversion of tomography data

A15  EGU2011-10316  
**Maria Kuteynikova** and Beatriz Quintal  
Numerical modeling of wave-induced fluid flow in 3D patchy saturated media

A16  EGU2011-2875  
**Wen-Jie Wu** and **Jia-Jyun Dong**  
Estimating the porosity-depth relation of sedimentary rocks from an effective stress/ stress history-dependent porosity model

A17  EGU2011-6035  
**Thomas Reinsch**, Guido Blöcher, Harald Milsch, Kort Bremer, Elfed Lewis, Gabriel Leen, and Steffen Lochmann  
In-situ pore pressure determination - application of a fibre optic sensor for the determination of rock physical properties

A19  EGU2011-2485  
**Harald Milsch**, Mike Priegnitz, and Guido Blöcher  
Changes in rock physical properties of gypsum samples dehydrated in air

A20  EGU2011-5460  
**Florian Fusseis**, Christoph Schrank, Ali Karrech, Ghassen Moalla, Stefan Revets, and Klaus Regenauer-Lieb  
Gypsum dehydration as a pore pressure diffusion process - insights from time-series Synchrotron X-ray microtomography, thermodynamic analysis and finite element modelling

A21  EGU2011-5435  
**Ju-Won Oh**, Hyun-Key Jung, and Dong-Joo Min  
Negative apparent resistivity based on physical modeling

A22  EGU2011-12316  
**Jan Volkmann**, **Norbert Klitzsch**, and Oliver Mohnke  
Impedance Spectroscopy for assessing the wetting conditions of reservoir rocks

A23  EGU2011-3970  
**Jan Vinogradov**, Matthew Jackson, and Adrian Butler  
Measurements of spontaneous potential in chalk with application to aquifer characterization in the southern UK

A24  EGU2011-11753  
**Eli Leinov** and Matthew Jackson  
Experimental measurements of electrochemical coupling potentials in NaCl-brine saturated sandstone cores

A25  EGU2011-4765  
**Jon Saunders** and Matthew Jackson  
Inversion of downhole streaming potentials to determine water front position

A26  EGU2011-5924  
**Matthew Jackson**, Eli Leinov, Murtaza Gulamali, and Jan Vinogradov  
Water saturation dependence of streaming potential coupling coefficient and excess charge density in sandstones during drainage and imbibition
A27  EGU2011-247  
**Sofia Lopes** and Maxim Lebedev  
Reservoir rock fluid imbibition experiments: complex study using X-ray computer tomography and ultrasonic techniques

A28  EGU2011-8327  
**Alban Souche** and Marcin Dabrowski  
Rayleigh-Bénard convection in porous media: benchmark of FEM models

A29  EGU2011-10393  
**Danica Fidriková**  
Application of Hot-ball sensor for investigation of water diffusion in sandstone and marble

A30  EGU2011-12480  
**Hauke Marquardt**, Katharina Marquardt, and Sergio Speziale  
Ion Cutting of Large Samples for Brillouin Scattering: Elastic Anisotropy of Antigorite at High-Pressures

A31  EGU2011-12603  
**Vladimir Greif**, Martin Brcek, Jan Vlcko, Tatiana Durmekova, and Ivana Simkova  
Model of the thermo-mechanical behavior of the Pravcicka brana sandstone rock arch (Czech Republic) and Perun's rock at Spis Castle (Slovakia).

**EMRP11/GMPV30/NH10.5/TS2.8 – Rock Physics and Natural Hazards (co-organized) – Orals**  
Convener: Sergio Vinciguerra | Co-Conveners: Philip Benson, Daniel Faulkner, Giulio Di Toro  
**Room: 42**  
Chairperson: S. Vinciguerra; P. Benson

10:30–10:45  EGU2011-1907  
**Patrick Baud**, Wei Zhu, Sergio Vinciguerra, and Teng-fong Wong  
Brittle faulting and inelastic compaction in Alban Hills tuff: microstructural observations and micromechnical modeling

10:45–11:00  EGU2011-4812  
**Michael Heap**, Andreas Laumann, Kai-Uwe Hess, Yan Lavallée, Patrick Baud, Philip Meredith, and Donald Dingwell  
Chemical, physical and mechanical properties of tuffs from Campi Flegrei (Italy)

11:00–11:15  EGU2011-6510  
**Sergio Vinciguerra**, Silvio Mollo, Paola Tuccimei, Michael Heap, Michele Soligo, Mauro Castelluccio, Piergiorgio Scarlato, and Donald Dingwell  
Radon and thoron emission from high and low porosity rocks under increasing deformation: An experimental study

11:15–11:30  EGU2011-9526  
**William Hancock** and Dion Weatherley  
On the influence of Particle Shape in fault gouge simulations using the Discrete Element Method

11:30–11:45  EGU2011-9638  
**Tadashi Takano**, Ken-ichiro Maki, Eriko Soma, Katsumi Hattori, and Takashi Maeda  
Fundamentals of Microwave Detection in Association with Rock Fracture and Experimental Data for Various Rocks

11:45–12:00  EGU2011-13191  
**Thomas Mitchell**, Michael Heap, Yan Lavallee, Takehiro Hirose, Donald Dingwell, Sergio Vinciguerra, Jörg Renner, and Andrea Cavallo  
Frictional Melt Generated from Similar & Dissimilar Volcanic and Sedimentary Rocks.

**EMRP11/GMPV30/NH10.5/TS2.8 – Rock Physics and Natural Hazards (co-organized) – Posters**  
Convener: Sergio Vinciguerra | Co-Conveners: Philip Benson, Daniel Faulkner, Giulio Di Toro  
**Hall A | Display Time 08:00–19:30**  
Author in Attendance: 17:30–19:00  
Chairperson: D. Faulkner; G. Di Toro

A32  EGU2011-4285  
**Philip Benson**, Michael Heap, Yan Lavallee, Patrick Selvadurai, Asher Flaws, Kai Hess, Burkhard Schillinger, and Donald Dingwell  
Fracturing of volcanic edifices and dyking during magma ascent

A33  EGU2011-4825  
**Linda Petrakova**, Michael Heap, Yan Lavallée, Patrick Baud, and Donald Dingwell  
Investigating the stability of the volcanic edifice at Volcán de Colima, Mexico

A34  EGU2011-6749  
**Andrew Bell**, Ian Main, Michael Heap, Patrick Baud, and Philip Meredith  
Application of a mean-field model for brittle creep strain rates under finite loading conditions
A35  EGU2011-7145
Pierre Gavrilenko and Chandrani Singh
Modelling the hydromechanical response in the neighbourhood of Koyna reservoir (India): Results of the initial filling period

A36  EGU2011-7203
Sergio Vinciguerra, Michael Heap, Silvio Mollo, Yan Lavallée, Kai Hess, Donald Dingwell, Gianluca Iezzi, and Patrick Baud
Volcanic edifice weakening via thermal reactions

A37  EGU2011-10139
Olivier Lengliné, Jean Schmittbuhl, Jean Elkhoury, Jean-Paul Ampuero, Renaud Toussaint, and Knut Jorgen Maløy
Interplay of seismic and aseismic deformation during brittle creep crack propagation

A38  EGU2011-10209
Elizabeth Gaunt, Peter Sammonds, Rosanna Smith, Philip Meredith, and Christopher Kilburn
Volcanic dome stability; Permeability and fluid pressurisation of the Mount St Helens 2004-2008 lava dome complex

A39  EGU2011-10450
Gianluca Gola, Vincenzo Pasquale, Paolo Chiozzi, and Massimo Verdoya
Appropriate mixing models to estimate thermal properties of clastic and chemical/biochemical rocks

A40  EGU2011-14195
Charlotte Feneis, Bettina Scheu, Yan Lavallee, and Donald B. Dingwell
Effect of water saturation on the fragmentation threshold and tensile strength of rocks in volcanic environments

A41  EGU2011-7831
Jean Sulem, Ioannis Stefanou, and Emmanuil Veveakis
Strain localization during rapid shearing of a saturated rock layer: Preferred instability wave length and shear band thickness
Thursday, 07 April

**GD7.1/EMR12/GMPV18/SM4.6 – Structure, Composition and Dynamics of the Deep Earth (co-organized) – Posters**
Convener: Jon Mound | Co-Conveners: Arwen Deuss, Michael Ammann, Hauke Marquardt
Hall A | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: Jon Mound and Hauke Marquardt

A69 EGU2011-692
**Stefanie Hempel**, Christine Thomas, and Razvan Caracas
The lowermost mantle beneath Bering Sea - P wave study and inversion for mineralogy of D

A70 EGU2011-9238
**Dmitry Krasnoshchekov** and Vladimir Ovtchinnikov
PKiKP/PcP amplitude ratios interpreted in terms of core-mantle boundary reflecting properties

A71 EGU2011-12930
**Daniele Antonangeli**, Julien Siebert, Chantel M. Aracne, Daniel L. Farber, Alexey Bosak, Moritz Hoesch, Michael Krisch, Frederick J. Ryerson, Guillaume Fiquet, and James Badro
Spin Crossover in Ferropericlase at High Pressure: A Seismologically Transparent Transition?

A72 EGU2011-12508
**Hauke Marquardt**, Arianna Gleason, Katharina Marquardt, Sergio Speciale, Lowell Miyagi, Gregor Neusser, Hans-Rudolf Wenk, and Raymond Jeanloz
Elastic Properties of Nano-crystalline MgO Powder to High Pressures by Brillouin Light Scattering

A73 EGU2011-2925
**Junkee Rhie**, Tae-Gyu Yee, and Seongryong Kim
The velocity structure of the core constrained by joint analysis of differential travel times and differential ray parameters of PKP(BC)-PKP(DF)

A74 EGU2011-6715
**Jon Mound**
Inter-Annual Torsional Oscillations and Angular Momentum Exchange

A75 EGU2011-8847
**Luis Silva**
Core flow estimates and inner-core growth patterns

A76 EGU2011-11517
**Tobias Trümper**, Martin Breuer, and Ulrich Hansen
Numerical simulations of thermo-chemically driven convection and geodynamos

A77 EGU2011-12565
**Julien Roch**, Eric Clévédé, Geneviève Roult, Jean Paul Montagner, and Philippe Lognonné
Deep structure of the Earth : from the lower mantle to the inner core

**EMRP2 – Rapid Secular Variation, observation and core processes – Orals**
Convener: Vincent Lesur | Co-Conveners: Chris Finlay
Room: 41
Chairperson: V. Lesur

13:30–13:45 EGU2011-5048
**Jürgen Matzka**
Observing geomagnetic secular variation

13:45–14:00 EGU2011-2528
**Jeremy Bloxham** and Veronika Soukhovitskaya
The Limits of Magnetic Field Resolution at the Core-Mantle Boundary

14:00–14:15 EGU2011-12952
**Arnaud Chulliat**
Observation of magnetic diffusive processes and secular acceleration pulses at the core surface

14:15–14:30 EGU2011-8604
**Luis Silva**
The zonal flow acceleration signature of geomagnetic jerks

14:30–14:45 EGU2011-618
**Florian Lhuillier**, Alexandre Fournier, Gauthier Hulot, and Julien Aubert
The geomagnetic secular-variation timescale in observations and numerical dynamo models

14:45–15:00 EGU2011-6965
**Nathanael Schaeffer**
Quasi-Geostrophic Flows in the Earth Core as a Source for the Secular Variation.
EMRP2 – Rapid Secular Variation, observation and core processes – Posters
Convener: Vincent Lesur | Co-Conveners: Chris Finlay
Hall A | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: C. Finlay

A8 EGU2011-2440
Denys Schmitt
Properties of the Quasi-Free-Decay Magnetic Modes: Application to the Earth's outer core

A9 EGU2011-9472
Maria Alexandra Pais and Nathanael Schaeffer

A10 EGU2011-6988
Ingo Wardinski
Inferences about small scale core surface flow and secular variation from scaling laws

A11 EGU2011-6154
Vincent Lesur, Praveen Kunagu, Ingo Wardinski, and Mohamed Hamoudi
Third version of the GFZ Reference Internal Magnetic Model: GRIMM-3

A12 EGU2011-7019
Ludwig Ballani, Jan M. Hagedoorn, Dietrich Stromeyer, and Hans Greiner-Mai
Magnetic energy fluctuations on the core-mantle boundary

A13 EGU2011-6363
Crisan Demetrescu and Venera Dobrica
On the rapid core field evolution. Case study: The European network of geomagnetic observatories

A14 EGU2011-4732
Hyung Rae Kim and Ralph von Frese
Localized analysis of geomagnetic jerk in the polar regions and South America

EMRP3/PS10.3 – Planetary Magnetism, PlanetMag (co-organized) – Orals
Convener: Matthias Holschneider | Co-Conveners: Mioara Mandea, Hermann Lühr, Johannes Wicht, Doris Breuer, Stuart Gilder
Room: 41
Chairperson: n.n.

15:30–15:45 EGU2011-7730
Andre Giesecke, Frank Stefani, and Gunter Gerbeth
Experimental realisation of homogeneous dynamo action

15:45–16:00 EGU2011-3051
Wieland Dietrich, Johannes Wicht, and Ulrich Christensen
The convective origin of hemispherical dynamos

16:00–16:15 EGU2011-5408
Christian Gerhards
Modeling the Earth's magnetic field by local multiscale methods

16:15–16:30 EGU2011-3530
Emmanuel Chané, Joachim Saur, and Stefaan Poedts
Modelling Jupiter's magnetosphere: Influence of the internal sources

16:30–16:45 EGU2011-9261
Jaime Urrutia-Fucugauchi, Daniel Flores-Gutierrez, Ligia Perez-Cruz, Raquel Diaz-Hernandez, and Carlos Linares-Lopez
Micromagnetic and Microstructural Analyses of Individual Chondrules From the Allende Carbonaceous Chondrite

16:45–17:00 EGU2011-5081
Nico De Koker, Gerd Steinle-Neumann, and Vojt?ch Vi?ek
Thermal Conductivity of Earth's Liquid Outer Core from First-Principles Calculations

17:00–17:15 EGU2011-3223
Jan Dostal, Zdenek Martinec, and Maik Thomas
Simulation of the ocean induced poloidal magnetic field variations by considering the conductivity contrast between ocean and continent

EMRP3/PS10.3 – Planetary Magnetism, PlanetMag (co-organized) – Posters
Convener: Matthias Holschneider | Co-Conveners: Mioara Mandea, Hermann Lühr, Johannes Wicht, Doris Breuer, Stuart Gilder
Hall A | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: Johannes Wicht

A15  EGU2011-13344
Kevin Lewis and Frederik Simons
Structure and Heterogeneity of the Martian Crustal Magnetic Field

A16  EGU2011-9986
Christoph Egbers and Nicoleta Scurtu
Magneto-rorotational-type instability in Couette-Taylor flows of viscoelastic polymer liquids

A17  EGU2011-3387
Mario Seufert, Joachim Saur, and Fritz M. Neubauer
Electromagnetic induction at Ganymede

A18  EGU2011-3888
Glenn Sterenberg and John Crowley
Thermal Evolution of Early Solar System Planetesimals and the Possibility of Sustained Dynamos

A19  EGU2011-6502
Ludovic Petitdemange and Hubert Klahr
Wave generation in rotating and non-rotating MHD Spherical Couette Flow with an applied vertical magnetic field

A20  EGU2011-7562
Julia Ernst-Hullermann, Helmut Harder, and Ulrich Hansen
Finite Volume simulations of dynamos in ellipsoidal planets

A21  EGU2011-8519
Rob Shore, Kathy Whaler, Susan Macmillan, and Ciaran Beggan
Methods for Processing Satellite Constellation Measurements of Earth-External Magnetic Field Sources

A22  EGU2011-3054
Johannes Wicht
Flow and magnetic instabilities in the spherical Couette system

A23  EGU2011-3945
Xing Wei
Kinematic dynamo in spherical Couette flow

A24  EGU2011-6172
Ludovic Petitdemange and Emmanuel Dormy
Axisymmetric and non-axisymmetric MagnetoStrophic MRI modes

A25  EGU2011-8518
Céline Guervilly, Philippe Cardin, and Nathanael Schaeffer
A dynamo driven by zonal jets at the upper surface in the giant planets

EMRP8 – The magnetic environment, palaeomagnetic excursions and dipole lows, and reliability of the signal in sediments – Orals
Convener: Joseph Liddicoat | Co-Conveners: Ramon Egli, Simo Spassov, Nicolas Thouveny
Room: 41
Chairperson: Joseph Liddicoat / Nicolas Thouveny

08:30–08:45  EGU2011-4657
Leo Kristjansson
Geomagnetic variations recorded in Neogene lava flows in Iceland

08:45–09:00  EGU2011-9118
Ulrich Hambach, Christian Rolf, Zeeden Christian, Markovic Slobodan, Jovanovic Mladjen, and Nowaczyk Norbert
Geomagnetic excursions recorded in loess: case studies from the Danubian loess province

09:00–09:15  EGU2011-13127
Emily Spokowski, Joseph Liddicoat, Robert Coe, Roxanne Smith, Brian Mailloux, Timothy Kenna, and Marina Iorio
Origin of the remanence recording the Mono Lake Excursion in the Mono Basin, CA

09:15–09:30  EGU2011-6274
Reidar Lovlie, Ronghua Wang, and Xisheng Wang
In situ re-magnetization experiments of loess on the Chinese loess plateau; evidence for localized pDRM

09:30–09:45  EGU2011-4118
Dario Bilardello, Josef Jezek, and Stuart Gilder
Understanding magnetic remanence acquisition through combined synthetic sediment deposition experiments and numerical simulations
Some thoughts about the NRM of magnetofossil-rich sediments

COFFEE BREAK

Chairperson: Ramon Egli / Simo Spassov

10:30–10:45 EGU2011-8996
Edoardo Dallanave, Claudia Agnini, Giovanni Muttoni, and Domenico Rio
Magneto-biostratigraphy and rock-magnetism of the late Cretaceous-late Paleocene Ardo section (Belluno Basin, NE Italy).

10:45–11:00 EGU2011-3728
Vadim Kravchinsky, Karol Rohraff, and Mauricio Sacchi
Lake Baikal's magnetic record of the climate response to orbital forcing: advancing toward the continental climate reference curve for the last 1.1 million years.

11:00–11:15 EGU2011-100
Firoz Kadar Badesab, Hendrik Müller, Tilo von Dobeneck, Karin Bryan, Roger Briggs, and Thomas Fredericks
Sediment sorting and magnetic properties of barrier beach sediments, Northeastern New Zealand.

11:15–11:30 EGU2011-4598
Jinhua Li and Yongxin Pan
How shape anisotropy affects bulk magnetic properties: Observation of magnetosome chains in magnetotactic bacteria.

11:30–11:45 EGU2011-2975
Tadeusz Magiera and Zygmunt Strzyszcz
Morphological and mineralogical forms of technogenic magnetic particles in industrial dusts.

11:45–12:00 EGU2011-13976
Simo Spassov, Jozef Hus, and Souad Ech-Chakrouni
A sampling technique for signals of fractal nature: Application to top soil magnetic susceptibility measurements.

EMRP8 – The magnetic environment, palaeomagnetic excursions and dipole lows, and reliability of the signal in sediments – Posters

Convener: Joseph Liddicoat | Co-Conveners: Ramon Egli, Simo Spassov, Nicolas Thouveny

Hall A | Display Time 08:00–19:30
Author in Attendance: 17:30–19:00
Chairperson: Simo Spassov / Nicolas Thouveny

A26 EGU2011-11201
Karl Fabian and Thomas Frederichs
Quantifying gyroremanent magnetization in greigite-bearing sediments

A27 EGU2011-7523
Andreas U. Gehring, Jessica Kind, Michalis Charilaou, and Inés García-Rubio
Anisotropy as a key to detect magnetotactic bacteria and magnetofossils

A28 EGU2011-9748
Kathrin Lisa Kapper, Fabio Donadini, and Ann Hirt
Rock- and archeomagnetic characterizations of burnt sediments to investigate the geomagnetic field evolution during the mid-Holocene

A29 EGU2011-1497
Mikhail Bazhenov, Rob Van der Voo, Natalia Levashova, and Ada Dominguez
Late Devonian paleomagnetism of the North Tien Shan, Kyrgyzia: Does secular variation vary at a short time scale?

A30 EGU2011-12937
Joseph Liddicoat
Relative palaeomagnetic field intensity during the Mono Lake Excursion

A31 EGU2011-8174
Miriam Gómez-Paccard, Juan Cruz Larrasoña, and Santiago Giralt
A new Late Holocene paleosecular variation sedimentary record from central Asia (Lake Issyk-Kul, Kirgystan)

A32 EGU2011-1131
Tomoko Asami, Naoto Ishikawa, and Kanako Ishikawa
Rock magnetic study on magnetic properties of the topmost sediments from the deepest area of Lake Biwa, Japan
Cyclic patterns in rock magnetic records of Pleistocene deep-sea sediments from the NW-Pacific near Shatsky Rise: indication of decreased bottom water ventilation?

Mineral magnetic study of lacustrine sediments from Pumoyum Co Lake, southern Tibet, over the last 19 ka and paleoenvironmental significance

Holocene paleoenvironmental records of Lake Van (eastern Turkey) from mineral magnetic analysis

On the origin of fine-grained magnetic mineral (magnetite?) in laminated Baltic Sea sediments and implications for past environmental variability

Neo-formation of a ferrimagnetic phase during thermal degradation of plant tissues: implications for the magnetic properties of top soils

Low temperature hysteresis properties of traffic-related PM in Rome: a clue to estimate the content of superparamagnetic particles

Magnetic Valley: a research valorization project

Magnetic reversals and the geodynamo: a whole-Earth perspective (Petrus Peregrinus Medal Lecture)

The neutral lines in buckle folds

Folding of Nodular Layers - Insights from Field Observations and Numerical Modeling

Changing fluid conditions during folding: Implications for deformation mechanisms

Fold-fracture relationships in a Laramide basement-cored fold, Rattlesnake Mountain Anticline, Wyoming

Evolution of paleostress magnitudes and pore fluid pressure during folding above a basement thrust: an integrated mechanical study at Sheep Mountain anticline (Wyoming, USA).

Constraints on deformation mechanisms during folding provided by rock physical properties: Case studies from Laramide uplifts (Wyoming, USA)
XL265  EGU2011-13669  Stefano Tavani, Jordi Bausa, Joana Mencos, and Josep Anton Muñoz  
The fracture pattern of the Sant Corneli oblique inversion anticline (Spanish Pyrenees).

XL266  EGU2011-437  Eloi Carola, Anna Quintà, Stefano Tavani, and Josep Anton Muñoz  
Role of mesostructural inheritances in inversion-related fracturing. Example form the Mataporquera Anticline, 
Western Pyrenees (Spain).

XL267  EGU2011-496  Cristina García-Lasanta, Belén Oliva-Urcia, Teresa Román-Berdiel, and Antonio Casas-Sainz  
When does AMS develop and register strain in extensional sedimentary basins?

XL268  EGU2011-774  Esther Izquierdo-Llavall, Antonio Casas-Sainz, and Inmaculada Gil-Peña  
Fold geometry and foliation development in the western area of the Central Pyrenees

XL269  EGU2011-5614  Mickael Barbier, Jean-Paul Callot, Jean-Marc Daniel, and Youri Hamon  
The sedimento-diagenetic control on the multiscale fracturing of a carbonate reservoir, the Madison Formation  
(Sheep Mountain, Wyoming, USA)

XL270  EGU2011-8237  Marco Snidero, Stefano Tavani, and J.Anton Muñoz  
Sin-folding extensional deformation in the Anaran Anticline (Zagros, Iran).

XL271  EGU2011-9274  Philippe Robion, Fabien Humbert, Dominique Frizon de Lamotte, Jean-Claude Ringenbach, and Stéphanie  
Leghay  
Evolution of deformation through the Sub Pyrenean Zone in the Corbières fold-thrust belt inferred from structural analyses and from magnetic and acoustic fabrics investigations : implications on the pretophysical properties of the Eocene deposits.

XL272  EGU2011-10809  William Sassi, Martin Guiton, Yves Leroy, Narjes Kallel, Jean-Paul Callot, Jean-Marc Daniel, Olivier Lerat,  
and Jean-Luc Faure  
Constraints on mechanical modelling of folding provided by matrix deformation and fracture network analysis:  
The case of Split Mountain (Utah, USA)

XL273  EGU2011-10836  Maria Gema Llorens, Paul D. Bons, Albert Griera, and Enrique Gomez-Rivas  
Numerical simulation of layer folding in simple shear

XL274  EGU2011-11107  Lionel Sonnette, Jérôme Gattaccea, Christophe Larroque, and Jean-François Stéphan  
Paleomagnetism as a marker of synfolding rotation. Example of the dome de Barrôt (subalpine massif, SE France)

XL275  EGU2011-11226  Nicolas Bellahsen, Nicolas Beaudoin, Olivier Lacombe, and Laurent Emmanuel  
Kinematics of the arcuate periclinal termination of a basement-cored anticline: Structural and microstructural  
studies at Rattlesnake Mountain Anticline (Wyoming, USA)

XL276  EGU2011-13254  Marta Adamuszek, Daniel W. Schmid, and Marcin Dabrowski  
Fold Geometry Toolbox: Automated determination of fold shapes, strain, and material properties

Flexural-slip mechanism in plunging folds. Example from N-S folds in the South Pyrenean thrust front, Central  
Pyrenees (Spain)

XL278  EGU2011-13838  Frédéric Mouthereau and Philippe Yamato  
Rheology of large-scale Zagros folding

TS3.1 – Deformation and strain localization from micro- to lithospheric scales: patterns, processes, microstructures 
and the role of fluids in nature and experiment (co-listed) – Orals
Convener: Florian Fusseis | Co-Conveners: Luca Menegon, Sergio Llana-Funez, Claudia Trepmann, Sandy Cruden,  
Ulrich Riller, Christoph Schrank  
Room: 27  
Chairperson: n.n.
10:30–10:45  EGU2011-522
Phil Skemer
Microstructural evolution of peridotite during high temperature deformation

10:45–11:00  EGU2011-12141
Albert Griera, Mark W. Jessell, Ricardo Lebensohn, Lynn Evans, and Paul D. Bons
Lattice Preferred Orientation (LPO) evolution in dynamically recrystallizing olivine polycrystals: a numerical approach

11:00–11:15  EGU2011-6571
Rolf Brujin, David Mainprice, Philip Benson, and Luigi Burlini
Fabric development during high temperature and pressure compaction of hot-pressed Rochester Shale

11:15–11:30  EGU2011-1773
Hugues Raimbourg, Toshihiro Kogure, and Tsuyoshi Toyoshima
Crystal folding and recrystallization in naturally deformed orthopyroxene: insights from TEM imaging of subgrain/grain boundary development

11:30–11:45  EGU2011-2611
Mathieu Bourcier, Alexandre Dimanov, Eva Héripré, Michel Bornert, Wolfgang Ludwig, and Jean Raphanel
Viscoplastic behavior of synthetic salt: In-situ SEM full field measurement, a micromechanical approach.

11:45–12:00  EGU2011-8305
Laurent Montesi
Fabric development as the key to forming ductile shear zones and enabling plate tectonics

LUNCH BREAK

Chairperson: n.n.

13:30–13:45  EGU2011-13759
Andrew Putnis, Håkon Austrheim, Christine V. Putnis, and Janneke Brouwer
Mineral-fluid interaction and possible mechanisms of reaction-induced weakening

13:45–14:00  EGU2011-4922
Holger Stunitz, Luca Menegon, Pritam Nasipuri, Petr Jerabek, Florian Fussies, Erling Ravna, Kåre Kullerud, and Steffen Bergh
Strength evolution of the lower crust - examples from Northern Norway

14:00–14:15  EGU2011-1092
Santanu Misra and Jean-Pierre Burg
Large strain rheology of syn-tectonic melting and crystallizing metapelites

14:15–14:30  EGU2011-4096
Rüdiger Kilian, Renée Heilbronner, and Holger Stünitz
Deformation of dry quartz in shear zones

14:30–14:45  EGU2011-1943
Guillaume Desbois, Janos L. Urai, Peter A. Kukla, Uwe Wollenberg, Fabián Pérez-Willard, Zsolt Rádi, and Sandor Riholm
Distribution of brine in grain boundaries during static recrystallization in wet, synthetic halite: insight from Broad Ion Beam sectioning and SEM observation at cryogenic temperature

14:45–15:00  EGU2011-6133
Antoine Quilichini, Luc Siebenaller, Christian Teyssier, and Torsten Vennemann
Plumbing system at the brittle-ductile transition of a shear zone - insights from the Bitterroot detachment, MT, USA

Chairperson: Ulrich Riller, Florian Fussies

15:30–15:45  EGU2011-5814
Aude Gébelin, Andreas Mulch, Christian Teyssier, Matthew Heizler, Torsten Vennemann, and Nicholas C.A. Seaton
Quartz recrystallization and fluid flow during exhuming footwall rocks of the Northern Snake Range detachment, Nevada

15:45–16:00  EGU2011-4315
Alison Ord and Bruce Hobbs
Localised Folding and Axial Plane Structures

16:00–16:15  EGU2011-5478
Christoph Schrank, Florian Fussies, Ali Karrech, and Klaus Regenauer-Lieb
Thermal elasticity promotes failure in the brittle-ductile crust

16:15–16:30  EGU2011-8979
Bernhard Grasemann, Cornelius Tschegg, and Marcin Dabrowski
How boudinage triggers the localization of low-angle normal faults
Strain localization in mafic rocks: evidence from the Sudbury Igneous Complex, Canada

Is there strain softening in the Earth's crust?

TS3.1 – Deformation and strain localization from micro- to lithospheric scales: patterns, processes, microstructures and the role of fluids in nature and experiment (co-listed) – Posters

Convener: Florian Fusseis | Co-Conveners: Luca Menegon, Sergio Llana-Funez, Claudia Trepmann, Sandy Cruden, Ulrich Riller, Christoph Schrank

Hall XL | Display Time 08:00–19:30

Author in Attendance: 17:30–19:00

Chairperson: Sandy Cruden

XL279  EGU2011-836
Marco Antonio López-Sánchez, Alberto Marcos, Francisco José Martínez, and Sergio Llana-Funez
Strain gradient recorded in the Penedo Gordo granite during extensional movement of crustal-scale Vivero Fault (NW Spain)

XL280  EGU2011-924
Ayca Yurdakul and Bradford Hager
Delineation of Deformation Using Finite Element Modeling: A Case From Western Turkey

XL281  EGU2011-1093
Santanu Misra and Jean-Pierre Burg
Evolution of kink-band microstructures and rheology during torsion deformation of muscovite

XL282  EGU2011-1702
Ulrich Riller, Alexander Cruden, David Boutelier, and Christoph Schrank
Origin of sinuous deformation patterns in hot, wide orogens

XL283  EGU2011-1705
Ulrich Riller, David Boutelier, Christoph Schrank, and Alexander Cruden
Role of kilometer-scale weak circular heterogeneities on upper crustal deformation patterns: evidence from scaled analogue modeling and the Sudbury Basin, Canada

XL284  EGU2011-1731
Maartje Houben, Guillaume Desbois, and Janos Urai
A comparative study of fabrics and porosity in shaly and sandy facies of Opalinus Clay by BIB-SEM methods

XL285  EGU2011-2301
Alexander Simakin
Different ways to portrait anisotropic mantle rheology.

XL286  EGU2011-2317
Luca Menegon, Holger Stünitz, Pritam Nasipuri, Livia Nardini, and Renee Hellbrunner
Strain localization in lower crustal shear zones due to granular flow of syndeformational reaction products

XL287  EGU2011-2722
Johanna Nevitt, David Pollard, and Peter Lovely
Evolution of fault geometry and ductile fabrics under brittle-ductile conditions: an example from the Mount Abbot Quadrangle, Sierra Nevada, CA

XL288  EGU2011-5028
Philippe Agard, Romain Augier, and Patrick Monié
Shear band formation and strain localization on a regional scale: evidence from anisotropic rocks below a major detachment (Betic Cordilleras, Spain)

XL289  EGU2011-6269
Pinar Ozfirat, Mark James Caddick, and Alan Bruce Thompson
The influence of textural inheritance and general kinetics in the development of porphyroblasts during metamorphism

XL290  EGU2011-6309
Marianne Negrini, Holger Stünitz, and Luca Menegon
Experimental deformation, partial melting, and compositional changes in perthitic K-feldspar at high pressure and temperature

XL291  EGU2011-6518
Rolf Bruijn, Bjarne Almqvist, Philip Benson, and Ann Hirt
Magnetic susceptibility in experimentally compacted Rochester Shale powder

XL292  EGU2011-7408
Chiara Prete, Richard Spiess, and Annalisa Tunesi
Reaction softening of the deeper crust: an example from Baja California (Mexico)
Wentian Liang, Guowei Zhang, Yong Bai, and Kurt Stüwe
Emplacement mechanism of Mishuling Pluton: Implications for the Late Indosinian Tectonic Evolution of Qinling Orogen

Nicolas Brantut, Emmanuel David, Eva Heripre, Alexandre Schubnel, and Robert W Zimmerman
Elastic wave velocity and acoustic emission monitoring during Gypsum dehydration under triaxial stress conditions

Bernhard Grasemann and Marcin Dabrowski
Pinch and swell boudins during high-strain simple shear

Sabrina Diebold, Hans De Bresser, William B. Durham, and Laura Stern
Flow of pure water ice: Grain growth and deformation

Alexander Cruden, John Grocott, and Carlos Arevalo
Interplay between slab dynamics and upper plate structure for localizing magmatism in continental arcs

Renee Heilbrunner, Anja Thust, and Holger Stunitz
Mapping water and misorientations in experimentally deformed quartz

Jacek Szczepanski, Marcin D?browski, Olav Gundersen, and Robert Anczkiewicz
A fabric study of the Jeg?owa date-quartzite (quartz metaconglomerate)

Marcel Thielmann and Boris J. P. Kaus
Shear heating and subduction initiation

Julia Bial and Claudia Trepmann
From brittle and crystal-plastic deformation to dissolution-precipitation creep - the microfabric development in HP-metamorphic serpentinitized mantle peridotites

Giorgio Pennacchioni, Eleonora Zucchi, Silvia Favaro, Bernd Leiss, and Jens Walter
Development of crystallographic preferred orientation in natural quartz veins during post-magmatic cooling and deformation of granoid plutons: comparison between Adamello (Avio intrusion; Southern Alps, Italy) and Sierra Nevada (Lake Edison intrusion; C

Vaneeda Allken, Ritske Huismans, and Cedric Thieulot
Three-dimensional numerical modelling of crustal extension

Marcin Dabrowski and Bernhard Grasemann
Numerical modelling of domino boudinage under high simple shear strain

Joyce Schmatz and Janos L. Urai
The interaction of migrating grain boundaries and fluid inclusions in naturally deformed quartz

Laurent Ciancaleoni
Late Oligocene and Neogene kinematics of convergence at plate boundaries in the Eastern Central Alps : insights from shear zone patterns in metagranites from the European and Adriatic plates in the vicinity of the Insubric Line

Katharina Methner, Andreas Mulch, Aude Gébelin, Christian Teyssier, Micheal Wells, and Mike Cosca
Eocene extension and meteoric fluid flow in quartzite mylonite of the Raft River metamorphic core complex (USA)

Flora Andres-Araujo, Angel Rodriguez-Santana, Anaqua Gonzalez, Claudio Moreno, Francisco J. Pérez-Torrado, Francisco Santanta, and Tim A. Minshull
Sensitivity analysis of a model of lithospheric flexure: A case study of the flexure effect of Tenerife island on Gran Canaria island in the last 4 ma.

Jens Walter, Bernd Leiss, Giorgio Pennacchioni, and Christian Randau
Quantitative Neutron and X-ray texture analysis of Quartz mylonites - a comparative study

Jens Walter, Andreas Houben, Werner Scheweika, Michael Stipp, Klaus Ullemeyer, Helmut Klein, Bernd Leiss, Bent T. Hansen, and Werner F. Kuhs
POWTEX Diffractometer at FRM II - New Perspectives in Geoscientific Neutron Diffraction
Friday, 08 April

GD7.1/EMR12/GMPV18/SM4.6 – Structure, Composition and Dynamics of the Deep Earth (co-organized) – Orals
Convener: Jon Mound | Co-Conveners: Arwen Deuss, Michael Ammann, Hauke Marquardt
Room: 22
Chairperson: Jon Mound and Hauke Marquardt

13:30–13:45 EGU2011-3592
Renaud Deguen, Thierry Aloubièrre, Philippe Cardin, and Mickael Melzani
Convection, melting and the structure of the inner core and lowermost outer core

13:45–14:00 EGU2011-11177
Chris Finlay
A geomagnetic perspective on core structure and dynamics

14:00–14:15 EGU2011-2631
Seiki Asari and Vincent Lesur
Radial vorticity constraint in the core flow modeling

14:15–14:30 EGU2011-3068
Pavel Hejda and Alexander P. Anufriev
Compressibility effects in the Earth’s core convection

14:30–14:45 EGU2011-7944
Phil Livermore and Rainer Hollerbach
An excitation mechanism for torsional oscillations on the tangent cylinder

14:45–15:00 EGU2011-7159
Alexandre Fournier, Julien Aubert, and Erwan Thébault
A proposal for the selection of numerical dynamo models for data assimilation practice

Chairperson: Hauke Marquardt and Jon Mound

15:30–15:45 EGU2011-11437
George Helffrich and Satoshi Kaneshima
Outer core compositional stratification

15:45–16:00 EGU2011-5442
Dmitry Krasnoshchekov, Vladimir Ovtchinnikov, and Petr Kaazik
Observational evidence for cylindrical anomaly of seismic velocity in the Earth’s outer core

16:00–16:15 EGU2011-1480
Andrew Walker, Andrew Nowacki, Alessandro Forte, James Wookey, and J-Michael Kendall
Can seismic anisotropy in D″ be used to constrain flow patterns in the lowermost mantle?

16:15–16:30 EGU2011-5066
Nico De Koker
Thermal Conductivity of the Lowermost Mantle

16:30–16:45 EGU2011-5380
Gabriele Morra, Dave Yuen, and Fabio Cammarano
Necking of Plume Conduits and Severing of Plumeheads due to Non-Monotonic Plume Structure and Density Structure

16:45–17:00 EGU2011-11666
Nicola Tosi and David Yuen
Branching of plumes at 660 km discontinuity and bounds on lateral viscosity contrast in the lower mantle

G1.2/EMRP4 – Mathematical methods in the analysis and interpretation of potential field data and other geodetic time series (co-organized) – Orals
Convener: Volker Michel | Co-Conveners: Aude Chambodut, Mohamed HAMOUDI, Wieslaw Kosek, Jürgen Kusche, Michael Schmidt, Frederik J. Simons
Room: 17
Chairperson: V. Michel

10:30–10:45 EGU2011-12405
André Horbach and Hans-Peter Bunge
An efficient analytic method to derive geoids from geodynamic models

10:45–11:00 EGU2011-2106
Oliver Baur and Nico Sneeuw
Assessing Greenland ice mass loss by means of point-mass modelling: a viable methodology
EGU General Assembly 2011

11:00–11:15 EGU2011-7246
Ehsan Forootan and Jürgen Kusche
A non-Gaussian decomposition of GRACE-derived climate signals, using Independent Component Analysis (ICA)

11:15–11:30 EGU2011-10013
Enrico Kurtenbach, Torsten Mayer-Gürr, and Annette Eicker
The ITG-Grace2010 Kalman filter approach - Some insights

11:30–11:45 EGU2011-8796
Katrin Bentel, Gabriel Goebel, Michael Schmidt, and Christian Gerlach
Artificial effects in regional gravity field representation caused by point grids of input data and localizing base functions

11:45–12:00 EGU2011-210
Hakan Alp, A. Muhittin Albora, and Huseyin Tur
Determining of lineaments of Iskenderun Basin (Southern Turkey) using Wavelet Transformation

12:00–12:15 EGU2011-5120
Fotini Vervelidou and Erwan Thébault
A robust estimate of the lithospheric magnetic field over South Africa using statistical and bayesian-like approaches

G1.2/EMRP4 – Mathematical methods in the analysis and interpretation of potential field data and other geodetic time series (co-organized) – Posters
Convener: Volker Michel | Co-Conveners: Aude Chambodut, Mohamed HAMOUDI, Wieslaw Kosek, Jürgen Kusche, Michael Schmidt, Frederik J. Simons
Halls X/Y | Display Time 08:00–17:00
Author in Attendance: 13:30–15:00
Chairperson: V. Michel

XY144 EGU2011-3299
Ondrej Soucek, Zdenek Martinec, and Jakub Velimsky
Quasi-static electromagnetic induction in spherical Earth: Vector potential formulation.

XY145 EGU2011-1820
Tao Xing
The disquisition on magnetic basement and magmatic activity in the South Yellow Sea

XY146 EGU2011-11553
Isabel Blanco-Montenegro, Fuensanta G. Montesinos, Iacopo Nicolosi, Alessandro Pignatelli, José Arnoso, and Massimo Chiappini
Potential field anomalies as a tool for imaging the inner structure of volcanic islands: the case of La Gomera (Canary Islands)

XY147 EGU2011-1061
Volker Michel and Doreen Fischer
Locally adapted resolutions for potential field modelling and inversion

XY148 EGU2011-1207
Doreen Fischer and Volker Michel
The Amazon Watershed - Sparse Regularization of Inverse Gravimetry

XY149 EGU2011-2581
Lucia Seoane, Guillaume Ramillien, Frédéric Frappart, Richard Biancale, Serge Gratton, and Xavier Vasseur
Validation of constrained regional solutions of water mass change derived from GRACE KBRR data

XY150 EGU2011-13154
Sandra Preaux, Theresa Diehl, Chris Huang, and Carly Weil
A Comparison of Filtering Techniques for Airborne Gravity Data

XY151 EGU2011-5147
Robert Tenzer and Vladislav Gladkikh
Analysis of the atmospheric pressure loading in New Zealand

XY152 EGU2011-5151
Robert Tenzer and Vladislav Gladkikh
Comparison of the global ocean tide models TPXO7.2, GOT00.2, NAO.99b, FES2004, and EOT10a in New Zealand

XY153 EGU2011-355
Erdinc Oksum and Z.Mumtaz Hisarli
Estimation of the average crustal density and its contrast to the mantle in the Eastern Anatolia, Turkey

XY154 EGU2011-1909
Janusz Bogusz and Anna Klos
Wavelet analysis for investigation of precise GNSS solutions’ credibility
EMRP5 – Modeling of global and crustal scale magnetic anomalies – Posters
Convener: Juha V. Korhonen | Co-Conveners: Tamara Litvinova, Patrick T. Taylor
Hall A | Display Time 08:00–17:00
Author in Attendance: 10:30–12:00
Chairperson: n.n.

A7 EGU2011-14065
Alevtina Petrova and Maxim Petrishchev
Study of the magnetic anomalies from WDMAM 2007 in the geothermal area of alpine folding (Italy and
Tyrrhenian Sea)
A8 EGU2011-14070
Tamara Litvinova and Alevtina Petrova
Geological interpretation of the magnetic anomalies from WDMAM 2007 and from observation in the Barents
Sea region
A9 EGU2011-14062
Tamara Litvinova and Alevtina Petrova
The analysis of magnetic anomalies from WDMAM 2007 and the anomalous magnetic field in the south of
eastern Siberia
A10 EGU2011-11109
Mohamed Hamoudi, Vincent Lesur, Jerome Dyment, and Erwan Thebault
GMMA-2: a revision of the candidate for the World Digital Magnetic Anomaly Map
A11 EGU2011-12756
Juha V. Korhonen and the GTK WDMAM Team
A Candidate Model for Second Edition of WDMAM by Team GTK
A12 EGU2011-14084
Juha V Korhonen, Sven Aaro, Sören Byström, and Gerhard Schwarz
Observed regional magnetic anomaly drift in Sweden between 1965 and 1998
A13 EGU2011-11070
Karl Fabian, Marco Bröner, Odleiv Olesen, and Suzanne A. McEnroe
Separation of induced and remanent anomalies through analyses of multiple aeromagnetic surveys
A14 EGU2011-6938
Gerald Gabriel, Abhey Ram Baneal, Ingo Dressel, Vijay Prasad Dimri, and Charlotte Krawczyk
Curie depths estimation in Germany: methodological studies for derivation of geothermal proxies using new
magnetic anomaly data
A15 EGU2011-12181
Jorge Miranda, Luis Joaquim, Lourenço Nuno, Fernandes Rui, and Neves Conceição
Evolution of the Segmentation Pattern of the Mid-Atlantic Ridge between 20N and 41N, in the last 25 Ma

EMRP6 – Integrated rock physics, geological and geophysical studies for the characterization, protection and
valorization of archaeological and historical sites – Posters
Convener: Yoann Quesnel | Co-Conveners: Salvatore Piro, Emiliano Di Luzio
Hall A | Display Time 08:00–17:00
Author in Attendance: 10:30–12:00
Chairperson: Piro, Salvatore

A16 EGU2011-6148
Claudine Malfilatre, Philippe Bouvrais, Annick Chauvin, Erwan Hallot, Marc Poujol, and Denis Gapais
Characterization of natural building granitic stones
A17 EGU2011-4386
Claudia Principe, Jonas Malfatti, Debora Brocchini, and Silvia Guideri
Archaeomagnetic dating of Rocca San Silvestro limekiln
A18 EGU2011-10486
Jean-Claude Parisot, Corinne Landuré, Claude Vella, Daniel Hermitte, and Philippe Dussouillez
Occurrence of Roman occupation in the Rhône delta during late antiquity: an outer harbor of Arles?
### A19 EGU2011-3003
Georg Kaufmann, Burkart Ullrich, Ronald Freibothe, and Ines Beilke-Voigt
A multi-geophysical approach reveals information at an Early Iron Age Cult Site near Frankfurt/Oder, Germany

### A20 EGU2011-12227
Emiliano Di Luzio, Nello Imposa, Franco Fazio, and Giuseppe Rannisi
Geological factors controlling the site response in the historical centre of Rome: insights from updated modelling of the subsoil and seismic noise measurements

### A21 EGU2011-10395
Emiliano Di Luzio, Gianluca Bianchi Fasani, and Bretschneider Alberto
Multi-methodological stability analysis of the slope beneath the "Magna Mater" temple in the Palatino archaeological area (Rome, Italy)

### A22 EGU2011-7953
Salvatore Piro, Daniela Zamuner, and Melda Kucukdemirci
High-resolution GPR surveys for the study and characterisation of the archaeological site in urban area. The case of Palatino Hill (Rome, Italy)

### A23 EGU2011-7886
Salvatore Piro, Daniela Zamuner, and Melda Kucukdemirci
Integration of Ground Remote Sensing Methods for Archaeological Prospections.

### SSS2.2/EMRP15/GM10.2/PS7.0 – Modeling the Experiment, Experimenting the Models (co-organized) – Orals
Convener: Manuel Seeger | Co-Conveners: Luigi Colangeli, Javier Martin-Torres, Nikolaus J. Kuhn, Karsten Seiferlin, Markus Casper, Derek W. G. Sears, Ulrike Scherer, Ruth Ziethe, Tobias Heckmann, Sandra Schumacher

**Room: 9**

**Chairperson: Manuel Seeger**

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<thead>
<tr>
<th>Time</th>
<th>ID</th>
<th>Title</th>
<th>Authors/Organizers</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:30–08:45</td>
<td>EGU2011-2476</td>
<td>Modelling overland flow generation on a rough hillslope</td>
<td>Mike Kirkby</td>
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<tr>
<td>08:45–09:00</td>
<td>EGU2011-2012</td>
<td>Afshin Ghahramani and Yoshiharu Ishikawa Rain splash transport over steep hillslope; modeling of transport</td>
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<tr>
<td>09:00–09:15</td>
<td>EGU2011-629</td>
<td>Stefan Wirtz, Manuel Seeger, and Johannes B. Ries Experimental validation of basic model assumptions</td>
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<tr>
<td>09:15–09:30</td>
<td>EGU2011-5410</td>
<td>Zhengyao Nie, Gavan McGrath, and Christoph Hinz Rock particle fragmentation, as an alternative to fluvial transport, explains size sorting on arid hillslopes</td>
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<td>09:30–09:45</td>
<td>EGU2011-10118</td>
<td>Olivier Dewitte, Claudio Bosco, Miet Van Den Eeckhaut, and Mohamed Daoudi A statistical approach to predict gully initiation susceptibility with common spatial data</td>
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<td>09:45–10:00</td>
<td>EGU2011-1025</td>
<td>Aleksy Sidorchuk Stochastic theory of soil erosion: the novel approach to modelling and experimentation</td>
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**COFFEE BREAK**

**Chairperson: Ulrike Scherer, Luigi Colangeli**

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<th>Time</th>
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<td>10:30–10:45</td>
<td>EGU2011-1311</td>
<td>Orientation patterns of stone pavements: from field experiments to a physically-based model and towards laboratory experiments</td>
<td>Michael Dietze and Arno Kleber</td>
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<td>10:45–11:00</td>
<td>EGU2011-7977</td>
<td>An Van den Putte, Gerard Govers, Jan Diels, Annemie Leys, Christoph Langhans, and Wim Clymans Can rainfall simulation data be used to parameterize a dynamic infiltration model?</td>
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<td>11:00–11:15</td>
<td>EGU2011-2287</td>
<td>Willem Maetens, Jean Poesen, and Matthias Vanmaercke Confrontation of the PESERA map with measured soil loss rates at plot scale</td>
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11:30–11:45 EGU2011-6606
Gregor Golabek, Tobias Keller, Taras Gerya, Paul Tackley, Guizhi Zhu, and James Connolly
Core and early crust formation on Mars

11:45–12:00 EGU2011-8070
Rafael Escribano, Oscar Gálvez, Belén Maté, Miguel A. Moreno, Víctor J. Herrero, and F. Javier Martín-Torres
Anomalies in the spectra of planetary ice particles

LUNCH BREAK

Chairperson: Javier Martín Torres

13:30–13:45 EGU2011-10584
Ha Tran, Jean-Michel Hartmann, and Geoffrey Toon
Line-mixing effects on spectral shape and consequences for laboratory and atmospheric spectra analyses

13:45–14:00 EGU2011-8929
Ludmilla Kolokolova
Remote Sensing of Aggregated Aerosols Using Photopolarimetry

14:00–14:15 EGU2011-13452
Enric Palle
Earthshine measurements and extrasolar planet spectral retrieval

14:15–14:30 EGU2011-10233
Séverine Robert, Arnaud Mahieux, Valérie Wilquet, Rachel Drummond, Ann Carine Vandaele, Jean Vander Auwera, Yuri Borkov, Valery I. Perevalov, Sergey A. Tashkun, and Jean-Loup Bertaux
Analysis of new Absorption Bands of the Carbon Dioxide Isotopologues in Venus Spectra

14:30–14:45 EGU2011-2366
David Jacquemart
Recent progress in acetylene laboratory measurements for astrophysical applications

14:45–15:00 EGU2011-12177
Wladimir Neumann, Doris Breuer, and Tilman Spohn
The efficiency of magma heat transport in accreting planetesimals

SSS2.2/EMRP15/GM10.2/PS7.0 – Modeling the Experiment, Experimenting the Models (co-organized) – Posters
Convener: Manuel Seeger | Co-Conveners: Luigi Colangeli, Javier Martin-Torres, Nikolaus J. Kuhn, Karsten Seiferlin, Markus Casper, Derek W. G. Sears, Ulrike Scherer, Ruth Ziethe, Tobias Heckmann, Sandra Schumacher
Hall Z | Display Time 08:00–17:00
Author in Attendance: 15:30–17:00
Chairperson: Nikolaus Kuhn

Z58 EGU2011-8109
Pelin Aklik and Wei Wu
Centrifuge modeling of geotextile reinforced slopes

Z59 EGU2011-13632
Constance Bornkampf and Jürgen Schmidt
Experimental research and modelling macropore flow in soils

Z60 EGU2011-870
Tom Coulthard, Greg Hancock, and John Lowry
Modelling soil erosion with a downscaled landscape evolution model

Z61 EGU2011-1433
Stefan Strohmeier and Andreas Klik
Erosion Plot Monitoring: Impact of different Tillage Systems on average annual Soil Erosion and the Significance of Extreme Rainfall Events

Z62 EGU2011-1625
Nikolaus J. Kuhn and Elizabeth K. Armstrong
Organic Matter erosion from sandy soils: solving the mass balance

Z63 EGU2011-4123
Ulrike Scherer, Erwin Zehe, Klaus Traebing, and Kai Gerlinger
Parameterisation of a soil detachment model using rainfall simulation experiments

Z64 EGU2011-5740
Claude Mügler, Olivier Planchon, Jérémy Patin, Sylvain Weill, Norbert Silvera, Patricia Richard, and Emmanuel Mouche
Modelling of overland flow and tracer transport experiments under simulated rainfall at plot scale
Parameterization of the process-based soil erosion model LISEM by means of experimental measurements

Influence of hydraulic parameters on sediment transport in shallow flows

Experimental Estimation of Mean Flow Velocity under Overland Flow

Describing and modelling the rainfall-runoff pattern of an olive orchard large catchment in Southern Spain

The Search for a Solar Record in Lunar Paleoregoliths through Numerical Modeling and Analogous Experiments

Phyllosilicate and its role on the evolution of organic materials in the early solar nebula

Toward a Line List for Methane

Lunar dust simulants (LHT, JSC, MLS) compared in the frame of secondary emission

Characterization of continuous vacuum ultraviolet lamps - Implication on the study of methane photolysis at Lyman alpha (121.6 nm)

Grain Growth in Experimental Forsterite ± Metal ± Silicate Melt Systems: Analogues of Chondritic and Achondritic Parent Bodies.

A broadband frequency characterisation of Martian analogue dielectric behaviour

A method to compute topography and geoid from viscous convection overlaid by an elastic lithosphere

Radiative Transfer Calculations for the REMS/Mars Science Laboratory Ground Temperature Sensors

Calculation of Refraction Indices of Mars and Terrestrial Atmospheres Using Spectroscopic Databases

Research Using the European Mars Simulation Wind Tunnel Facility

Secondary emission from Martian soil simulant