

Evgueni BUROV

Curriculum Vitae

(2015)

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http://www.researchgate.net/profile/Evgene_Burov

http://www.istep.upmc.fr/fr/les_equipes/lsc/membres_de_1_equipe_lsc/burov_evgenii.html (rarely updated)

(NB: there are different spellings of my surname and given name:
Evgenii, Evgene, Evguene, Genia, Burov, Bourov ...)

MAIN RESEARCH DIRECTIONS

tectonics - geodynamics - numerical modelling – rheology – mechanics of the lithosphere - physics of geological processes

- Mechanics and rheological behavior of the continental lithosphere, in particular the relations between the long-term equivalent elastic thickness (lithospheric flexure), long- and short-time scale rheology, seismicity and thickness of the seismogenic layer.
- Development of the multi-physical thermo-mechanical numerical models (coupling with surface processes, fluids, and thermodynamics) those permit to take into account the rheological complexity of the continental lithosphere.
- Mechanisms of continental collision and extension, rifting and basin evolution.
- Localization of deformation and the part of inhomogeneities, fluids, faults, shear zones and realistic brittle-plastic-elastic rheology (in lithospheric-scale deformation).
- Interactions mantle – continental lithosphere, dynamic topography, interactions between surface and tectonic processes at regional scale

SHORT SUMMARY OF THE RESEARCH CAREER

Physicist by training (graduated in 1996 from Moscow Institute of Physics and Technology (*Fiztech*, MIPT/MFTI), I have defended my PhD degree in physics and applied mathematics (1990) at Moscow Schmidt Institute of Physics of the Earth RAS (IFZ) where I worked as research assistant and later as researcher. After a post-doctoral study at Leeds University (UK,1991), and 4 years of post-doc, invited fellow and assistant lecturer at the Institute of Physics of the Earth of Paris (IPGP,1992-1996), I have been hired by French Geological Service (BRGM,1996). At the age of 35 I have become a Full Professor at the Institute of Earth Sciences of Paris (ISTEP), which belongs to the University of Pierre and Marie Curie in Paris (1999). I have taken different responsibilities, mainly as a head of research groups, member of scientific and administrative committees, associated editor of peer review journals. In 2009 I was

elected member of European Academy of Sciences (Academia Europea). Since my employment at the UPMC I have advised more than twelve PhD students most of whom have found positions in academics and industrial research. I have published about 100 publications in peer review journals (2/3) as first author, cited more than 3000 times (H-factor ~ 33). In 2011 I have obtained, in Co-PI with L. Jolivet, a Senior Advanced ERC grant of the European Research Council (RHEOLITH Project, 2011-2017). In 2015 I have been awarded Stephan Mueller Medal of European Geosciences Union.

INTRA-TEAM RESEARCH COLLABORATIONS (colleagues from ISTEP and UPMC involved in common projects and publications, since 1999)

- S. Leroy, L. Jolivet (now at Orleans), S.Wolf, Ph. Agard, L. Le Pourhiet, L.Labrousse, E. d'Acremont, N.Bellahsen, L. Boschi, C. Gorini, F. Mouthreau, B.Meyer, C. Rosenberg, A.Koptev (Post-Doc), L.Florel (Post-Doc), C. Petit (now at Geosciences d'Azur), C.Tiberi(now at U. Montpellier), C.Robin(now at U.Rennes), Ph. Yamato (ex-PhD, now at U. Rennes), B. Huet (ex-PhD, now at U.Vienna), C.Tirel(ex-PhD, now at DIAS), François(ex-PhD, now at U.Utrecht), T. Duretz (ex-Post-Doc, now at U. Lausanne),G.Toussaint(ex-PhD). Current PhD students at ISTEP: L. Mezri, T. Dellanoy, Wang Kun, J. Berthellon, L. Dagère ...)

NATIONAL AND INTERNATIONAL RESEARCH COLLABORATIONS

- France: U. Orleans, IPGP, ENS, U.Rennes, BRGM, IFPEN, U.Montpellier, IRD Grenobles, U.Strasbourg, U. Brest, U.Nice,...
- International: U. Utrecht,U. Oxford, ETH Zurich,U. Lausanne,U.Roma, GFZ Potsdam, DIAS Dublin, U.Amsterdam, U. Moscow, U. Boulder, MIT, Caltech.
- Networks: Topo-Europe, ITN ZIP, AlpsArray, International Lithosphere Program (ILP) ...

AWARDS AND DISTINCTIONS

- Stephan Mueller Medal of European Geosciences Union 2015.
- ERC Advanced Research Grant 2012-2017 (RHEOLITH).
- Earth and Planetary Science Letters Outstanding Reviewer 2015.
- Member of Academia Europaea (Academy of Sciences of Europe), since 2009.
- Royal Netherlands Academy of Arts and Sciences Visiting Professor Appointment (1 year Grant, since March 2014)
- Edward A. Flinn Award (Outstanding Young Scientist), EGS-International Lithosphere Program, 1999
- Ranked 8th (top 10) on the list of 50 of former URSS scientists abroad, all disciplines, by NEWSWEEK magazine (Newsweek 45(217), Russian Edition, 3-9 November 2008)
- PhD teaching and research primes of Ministry of Research and Higher Education (France): 2000-2004, 2004-2008, and 2008-2012
- Invited Professor Grant ETH Zurich (2013)
- Invited Professor Grants at Vrije University of Amsterdam (1999-2008)
- >60 Invited Seminars at U. Amsterdam, U. Utrecht, ETH Zurich, U. Oxford, U. London, U. Leeds, U. Rome, Caltech, U. Frankfort , ENS Paris, ENS Lyon, U. Strasbourg, U. Nice, U. Rennes 1,

U. Orleans, U. Dublin, European Academy of Sciences, Dutch Academy of Sciences and many other

- 1992-1999: nominated four times for «Young Scientist Travel Award » of the European Geophysical Society
- Best Young Scientist Master's project, Institute of Operational Research of Russian (URSS) Academy of Sciences, 1986

ONGOING RESEARCH PROJECTS

- RHEOLITH: Advanced ERC Grant (2012-2017)
- International Lithosphere Program Task Force “Lithosphere dynamics: interplays between models and data”
- ZIP (president of steering committee): Zooming in between plates — Marie Curie International Training Network (2013 - 2017)
- Leader of numerical modelling WPs in ANR projects ONLAP, Marges.
- Industrial research collaboration projects: BRGM (2013-2015), IFPEN (2013-2016)
- Networks : European Academy of Sciences (Academia Europaea), TopoEurope (EUROCORES/ESF), Gold, Mistral ...

TEACHING

- Physics of the Earth
(Heat, Gravity, Fluid Mechanics, Rheology, Mechanics of Solids)
- Numerical modelling (Numerical methods, math bases, applications)
- Geodynamics and physical applications (isostasy, lithospheric flexure, effective elastic thickness of the lithosphere, folding, rifting and basin evolution processes, collision and subduction processes, convection, mantle-lithosphere interactions, surface processes – tectonic interactions, rocks, metamorphic processes, alteration processes)

RESEARCH ADMINISTRATION, SUPERVISION AND OTHER RESPONSIBILITIES

- PI2 of the Advanced ERC project « RHEOLITH » 2012-2017
- President of steering committee of ITN ZIP Project (Pierre and Marie Curie International Teaching Networks)
- Head of the group « Lithosphere, Deep Processes» of iSTEP (UMR 7193 – iSTEP)
- Member (elected) – representative of HDR at the council of the Institute of Doctoral Education
- Leader of the International Lithosphere Program Task Force “Lithosphere dynamics: interplays between models and data”
- Member of Solid Earth committee of INSU (National Institute of Sciences of the Universe)
- Member (elected) of the group of experts CSE 36^{ème} of the University Paris 6, UFR928
- Member (elected) at the council of the Institute of Earth Sciences of Paris (iSTEP - UMR7193)
- Member of scientific advisory board of Labex Matisse
- Direction, co-direction and active participation in more than 25 PhD projects
- Jury of PhD thesis (~25PhD); Jury of HDR thesis (10 HDR)
- Member (elected) – of the PhD conflict commission of the Institute of Doctoral Education of UPMC

- PI of research conventions with industry: BRGM; IFPEN
- PI et co-PI of projects and sub-projects in scientific programs: Advanced ERC project RHEOLITH; ITN ZIP, programs of INSU on lithosphere dynamics (IT), DYETI, ACI natural risks, SEDIT, Project MEBE (modelling), NERC. Membre of TOPO-EUROPE / TOPO-WECEP Network, ANR EGEO (modelling sub-project), ANR ONLAP, ANR Marges
- Reviewer for peer-review journals (50+ reports /year).
- Reviewer for national and international funding agencies : ERC, INSU, ANR, IFP, NSF (US), NERC (UK), NSF Norway, ISES Netherlands ...
- Convener/scientific panels of international congress and workshops (EGS/EGU XXVI, XXVII, XXVIII, XXIV, Joint Earth Science Meeting “Thrust Belts and Foreland Basins” 2005; GeoMod 2010; Convergent margins 2010; EGU2012;EGU2013)
- Member of the OSU Esse Terra Board

SELECTED PUBLICATIONS 1990-2015

Citation Index ~ 4200, H-Factor ~ 38

(* denotes publications with PhD student or Post-Doctoral Fellow as a first author)

A1. Burov, E. V., M. G. Kogan, H. Lyon-Caen, and P. Molnar, Gravity Anomalies, the Deep Structure, and Dynamic Processes Beneath the Tien Shan, *Earth and Planetary Sciences Letters*, 96, 367-383, **1990**

A2. Burov E. B., Kogan M. G., Gravitational-Mechanical Model of the Continental Plate Collision in Tien Shan Region, *Doc. Acad. Nauk, Phys. Solid Earth*, 313, (6), 439-1444, **1990** (in Russian and English: *Amer. Geophys. Union Transactions of DAN*)

A3. Burov E. B., Kogan M. G., Gravity anomalies in the deep structure of Tien Shan, *Izvestiya. Acad. Nauk, Earth Physics*, 28(2), 134-141, **1992**

A4. Burov E. B., and M. Diament, Flexure of the Continental Lithosphere with Multilayered Rheology, *Geophysical Journal International*, 109, 449-468, **1992**

A5. Burov E. B., Lobkovsky L. I., Cloetingh S., and A. M. Nikishin, Continental lithosphere folding in Central Asia (part II), *Tectonophysics*, 226(1-4), 73-87, **1993**

A6. Nikishin A. M., Cloetingh S., Lobkovsky L. I., and **E. B. Burov**, Continental lithosphere folding in Central Asia (part I), *Tectonophysics*, 226(1-4), 59-72, **1993**

A7. Burov E. B., Houdry F., Diament, M., and J. Déverchère, A broken Plate beneath the North Baikal Rift Zone Revealed by Gravity Modelling, *Geophysical Research Letters*, 21(2), 129-132, **1994**

A8. Burov E. B., M. Diament, Effective Elastic Thickness of the Continental Lithosphere - what does it really mean?, *Journal of Geophysical Research*, 100, 3905-3927, **1995**

A9. Abdurakhmatov, K., Korzhenkov, A.M., Berdichevsky, M.N., Burbank, D., **Burov, E.B.**, Hager, B.H., Molnar, P., Hamburger, M.W., Pavlis, G., Makarov, V.I., Miller, M., Rubin, C., Park S., Roecker, S.W., Sadybakasov, I., Trapeznikov, Yu. A.,

- Vernon, F., and R. Weldon, A Multidisciplinary Investigation of the Geodynamics of Intracontinental Mountain Building in the Tien Shan of Kyrgyzstan, ***EOS***, **1996**
- A10.** Cloetingh, S., and **E.B. Burov**, Thermomechanical structure of the European continental lithosphere: Constraints from rheological profiles and EET estimates, ***Geophys. J. Int.***, **124**, 695-723, **1996**
- A11.** Gorbatov, A., V. Kostoglodov, and **E. Burov**, Maximum seismic depth versus thermal parameter of subducted slab: Application to deep earthquakes in Chile and Bolivia, ***Geophysica Int.***, **35**, No.1, 41-50, **1996**.
- A12.** Avouac, J.-P. , and **Burov, E.B.**, Erosion as a driving mechanism of intracontinental mountain growth, ***J. Geophys. Res.***, **110**, 17747-17769, **1996**
- A13.** **Burov, E.B.**, and M. Diament, Isostasy, effective elastic thickness (EET) and inelastic rheology of continents and oceans, ***Geology***, **24**, 419-423, **1996**
- A14***. Petit, C., **Burov, E.B.**, and J. Déverchère, On the structure and the mechanical behaviour of the extending lithosphere in the Baikal Rift from gravity modeling, ***Earth and Planet Sci. Lett.***, **149**, 29-42, **1997**
- A15.** **Burov, E.B.**, and S. Cloetingh, Erosion and rift dynamics: new thermomechanical aspects of post-rift evolution of extensional basins, ***Earth and Planet Sci. Lett.***, **150**, 7-26, **1997**
- A16.** Bernard, P., Perrin, J., Truffert, C., **Burov, E.B.**, Miehe, J.M., Campagne de Géophysique aéroportée en Guyane Française (Carte des anomalies magnétiques/spectrographie, Echelle 1:500000), Edition BRGM&MIPT N° R39625, **1997**.
- A17.** **Burov E.B.**, and P. Molnar, Gravity Anomalies over the Ferghana Valley (central Asia) and intracontinental Deformation, ***J. Geophys. Res.***, **103**, 18137-18152, **1998**
- A18.** **Burov, E.B.**, J.-C. Mareschal, and C. Jaupart, Large scale crustal inhomogeneities and lithospheric strength in cratons, ***Earth and Planet Sci. Lett.***, **164**, 205-219, **1998**
- A19.** **Burov, E.B.** and L. Guillou-Frottier, Thermo-mechanical behaviour of large ash-flow calderas, ***J. Geophys. Res.***, **104**, 23081-23109, **1999**
- A20***. Gerbault, M., **Burov, E.B.**, Poliakov A., and M. Dagnieres, Do faults trigger folding in the lithosphere ?, ***Geophys. Res. Lett.***, **26**, 2, 271-274, **1999**
- A21.** Cloetingh, S., **Burov, E.**, and A. Poliakov, Lithosphere folding: primary response to compression ? (from central Asia to Paris Basin), ***Tectonics***, **18**, 1064-1083, **1999**
- A22.** **Burov, E.**, Podladchikov, Y., Grandjean, G., and J.-P. Burg, Validation of multidisciplinary data using thermo-mechanical modelling: application to the Western and Northern Alps, ***Terra Nova***, **11**, 124-131, **1999**
- A23.** Guillou-Frottier, L., **Burov, E.B.**, Milési , J.-P., and E. Marcoux, Genetic links between epithermal ore deposits and ash flow calderas, ***Mineral Deposits : Processes to Processing***, I, C.J. Stanley et al. (eds.), A.A. Balkema, Rotterdam, 802 p, 507-510, **1999**
- A24.** Guillou-Frottier, L., **Burov, E.B.**, and J.-P. Milési, Genetic links between ash-flow calderas and associated ore deposits as revealed by large-scale thermo-mechanical modeling, ***J. of Volcanology and Geothermal Research***, v. **102**, 339-361, **2000**

- A25.** Burov, E.B., Jolivet, L., Le Pourhiet, L., and A. Poliakov, A thermomechanical model of exhumation of high pressure (HP) and ultra-high pressure (UHP) metamorphic rocks in Alpine-type collision belts, *Tectonophysics*, 113-136, **2001**.
- A26.** Burov, E., and A. Poliakov, Erosion and rheology controls on syn- and post-rift evolution: verifying old and new ideas using a fully coupled numerical model, *J. Geophys. Res.*, 106, 16461-16481, 2001.
- A27.** Cloetingh, S., Burov, E., Beekman, F., Andeweg, B., Andriessen, P.A.M., Garcia-Castellanos, D., de Vincente, G., and R. Vegas, Lithospheric folding in Iberia ?, *Tectonics*, 21(5), 1041, doi:10.1029/2001TC901031, **2002**.
- A28.** Ebinger, C., Petit, C., and E. Burov, Causes and Consequences of Lithospheric Extension: The Ups and Downs of Continental Rifts, *SEPM (Soc. for Sed. Geol.) Spec. Publ. 73 «Sedimentation in Continental Rifts»*, 11-23, **2002**.
- A29.** Burov, E., The upper crust is softer than dry quartzite, *Tectonophysics*, 361, 321-326, **2002**.
- A30.** Robin C., P. Allemand, E. Burov, M.P. Doin, F. Guillocheau, G. Dromart & J.P. Garcia, Thermo-mechanical characteristics of the Paris Basin (Triassic-Pleistocene): from 3D stratigraphic database to numerical models. In Niewland, D. A. (ed.) : New Insights into Structural Interpretation and Modeling », *Geol. Soc. Spec. Publ.*, London, 212, 225-250, **2003**.
- A31.** Burov,E. and A .Poliakov, Erosional forcing of basin dynamics: New aspects of syn- and post-rift evolution, In Niewland, D. A. (ed.): New insights in structural interpretation and modelling,*Geol. Soc. Spec. Publ.*, London, 212,209–224, **2003**.
- A32*.** D'Acremont, E., S. Leroy, and E. B. Burov, Numerical Modeling of a mantle plume: The Plume head-Lithosphere interaction in the formation of a LIP, *Earth and Planet. Sci. Lett.*, 206, 379-396, **2003**.
- A33*.** Qirjaku, E., Chorovitz, J., Cadet, J.-P., and E. Burov, Structural evolution of the Albanian Sigmoid, *Tectonophysics*, **2003**.
- A34*.** Bellahsen, N., J.-M. Daniel, L. Bollinger, and E. Burov, Influence of ductile layers in growth of normal faults: insights from analogue and numerical models, *Journal of Structural Geology*, 25, 1471-1485, **2003**.
- A35.** Burov E., Jaupart, C., and L. Guillou-Frottier, Emplacement of magma reservoirs in the upper crust, *J. Geophys. Res.* v. 108, B4, april 2002JB001904, pp. 2177–2189, **2003**.
- A36*.** Le Pourhiet L., E. Burov and I. Moretti, How the initial crustal thickness variations control the extension in a back arc domain: The case of the Gulf of Corinth, *Tectonics*, 22, 4, doi :10.1029/2002TC001433, July, **2003**.
- A37.** Guillou-Frottier, L., and E. Burov, The development and fracturing of plutonic apexes: implications for porphyry ore deposits, *Earth and Planet. Sci. Lett.*, 214, pp 341-356, **2003**.
- A38.** Jolivet, L., Faccenna, C., Goffe, B., Burov, E., Agard, P., Parra, T., Trotet, F., Rossetti, F., and G. Rimmele, Subduction tectonics and exhumation of methamporhic rocks in the Mediterranean region, *Amer. J. of Sci.*, 303, 353-409, **2003**.
- A39.** Watts, A.B., and E. Burov, Lithospheric strength and its relationship to the elastic and seismogenic layer thickness, *Earth and Planet Sci. Letters*, 213, 113-131, **2003**.

- A40***. LePourhiet, L., **Burov**, E.B, and I. Moretti, Cinematically damped rolling hinge: a mechanical explanation for the kinematic of faulting in the Gulf of Corinth , *Tectonics*, 22(4): 1032, doi:10.1029/2002TC001433, **2003**.
- A41.** Cloetingh, S., P. Ziegler, T. Cornu, et the ENTEC Working Group (K.Ustaszewski, S.Schmid, P. Dezes,R.Hinsch, K.Decker, G.Lopes Cardozo, M.Granet,G.Bertrand, J.Behrmann, L.Michon,H.Pagnier, J.D.van Wees, S.Rozsa, B.Heck; J.Verduin, H.G.Kahle, U.Fracassi, T. Winter, and **E.Burov**), Investigating Environmental Tectonics in Northern Alpine Foreland of Europe, *EOS*, v84, no36, 9 Sept, 349-360, **2003**.
- A42.** Cloetingh, S., **Burov**, E., Matenco L., Toussaint, G., and G. Bertotti, Thermo-mechanical constraints for the continental collision mode in the SE Carpathians (Romania), *Earth and Planet Sci. Letters*, 218(1-2), pp. 57-76, **2004**.
- A43.** Toussaint, G., **Burov**, E., and L. Jolivet, Continental plate collision: unstable versus stable slab dynamics, *Geology*, Vol. 32, No. 1, 33–36, **2004**.
- A44*.** Tirel C., Brun J.P., **Burov** E. & Sokoutis D. *Numerical and analogue modelling of metamorphic core complex development*. Bollettino di Geofisica Teorica e Applicata, v. 45, Supp. 1, p. 156-160, 2004.
- A45*.** Tirel, C., Brun, J.-P., and **E. Burov**, Thermo-mechanical modeling of extensional gneiss dome. In: *Gneiss Domes and Orogeny. Geological Society of America Special Paper* 380, 67-78, **2004**.
- A46*.** Toussaint G., **Burov**, E., and J.-P. Avouac, Tectonic evolution of a continental collision zone: a thermo mechanical numerical model, *Tectonics*, 23, TC6003, doi:10.1029/2003TC001604, **2004**.
- A47*.** Le Pourhiet L, **Burov** E, Moretti I., Rifting through a stack of inhomogeneous thrusts (the dipping pie concept), *Tectonics*, 23 (4): TC4005, doi:10.1029/2003TC001584, **2004**
- A48.** **Burov**, E., and J.-L., L Guillou-Frottier, The plume head-lithosphere interaction using a tectonically realistic formulation for the lithosphere, *Geophys. J. Int.*, 161, 469-490, **2005**.
- A49*.** Shi, X., **Burov**, E., Leroy, S., Xuelin Qiu1, Bin Xia, Intrusion and its implication for subsidence: a case from the Baiyun Sag, on the Northern Margin of the South China Sea, *Tectonophysics*, TECTO7479, 407/1-2, 117-134, **2005**.
- A50.** **Burov**, E., A.B. Watts, The long-term strength of continental lithosphere: “jelly-sandwich” or “crème-brûlé”? , *GSA (Geological Society of America) Today*, 16, 1, doi: 10.1130/1052-5173(2006)016<4:TLTSOC, **2006**.
- A51.** S. Cloetingh, P. Ziegler, P. Bogaard, P.A.M. Andriessen, I.M. Artemieva, G. Bada, R.T. van Balen, F. Beekman, Z. Ben-Avraham, J.-P. Brun, H.P. Bunge, **E.B. Burov**, R. Carbonell, C. Faccenna, A. Friedrich, J. Gallart, A.G. Green, O. Heidbach, A.G. Jones, L. Matenco, J. Mosar, O. Oncken, C. Pascal, G. Peters, S. Sliaupa, A. Soesoo, W. Spakman, R.A. Stephenson, H. Thybo, T. Torsvik, G. de Vincente, F. Wenzel, M.J.R. Wortel, TOPO-EUROPE Working Group, TOPO-EUROPE: The geoscience of coupled deep Earth-surface processes, *Global and Planetary Change*, 58, 1-118, **2007**.
- A52.** **Burov**, E., The role of the gravitational instabilities, the density structure and the extension rate in the evolution of slow continental margins, Eds. G. D. Karner, G Manatschal, and L M Pinheiro , Geological Society of London Special Publications , SP 282 "Imaging, Mapping and Modelling Continental Lithosphere Extension and Breakup", ISBN-13: 978-1-86239-228-1, 488 pp., **2007**.

- A53.** L. Guillou-Frottier, **E. Burov**, P. Nehlig, and R. Wynds, Deciphering plume-lithosphere interactions beneath Europe with topographic signatures, *Global & Planetary Change*, Spec. volume on Topography of Europe, v58, 1-4, 119-140, doi: [10.1016/j.gloplacha.2006.10.003](https://doi.org/10.1016/j.gloplacha.2006.10.003), 2007.
- A54.** **Burov, E.** , L. Guillou-Frottier, E. D'Acremont, L .Le Pourhiet , and S. Cloetingh, Plume head –lithosphere interactions near intra-continental plate boundaries, *Tectonophysics*, v434, 1-4, 15-38, doi: [10.1016/j.tecto.2007.01.002](https://doi.org/10.1016/j.tecto.2007.01.002), 2007.
- A55.** **Burov E.**, Part 1 Surficial and Deep Porcesses in Thrust Belts, Chapter 1: Coupled lithosphere-surface processes in collision context, Eds: O. Lacombe, J. Lavé, F. Roure and J. Vergès, “*Thrust belts and foreland basins: From fold kinematics to hydrocarbon systems*”, series “*Frontiers in Earth Sciences*”, Springer-Verlag, Berlin Heidelberg, p 1-40, ISBN-13: 978-3-540-69425-0, 2007.
- A56.** **Burov, E.** and Yamato, Ph., Continental plate collision, P-T-t-z conditions and unstable vs. stable plate dynamics : Insights from thermo-mechanical modelling, *Lithos*, 103, 178-204, 2008
- A57.** **Burov E. and G. Toussaint**, Surface processes and tectonics: forcing of continental subduction and deep processes, *Global & Planetary Change, Spec. volume on Topography of Europe* , 58, 141-164, doi:[10.1016/j.gloplacha.2007.02.009](https://doi.org/10.1016/j.gloplacha.2007.02.009), 2007.
- A58***. Yamato, P., Agard P., **Burov E.**, Le Pourhiet L., Jolivet L., Tiberi C., Burial and exhumation in a subduction wedge: Mutual constraints from thermo-mechanical modelling and natural p-t-t data (sch. Lustres, w. Alps), *J. Geophys. Res*, 112, B07410, doi:[10.1029/2006JB004441](https://doi.org/10.1029/2006JB004441), 2007.
- A59.** Agard P. , Jolivet L. , Vrielynck B. , **Burov E** , and Monié P. , Plate accelerations: the obduction trigger?, *Earth and Planetary Sci. Lett*, 258, 428-441, 2007.
- A60.** **Burov, E.B.**, Plate rheology and mechanics, Ed.: G. Schubert, Treatise on Geophysics, Volume 6 – Crust and Lithosphere Dynamics (Volume Edt. A.B. Watts) , Elsevier, TOGP00102, ISBN:978-0-444-51928-3, p 99-152, 611 pp, 2007.
- A61.** Tirel, C., Brun, J.-P., and **E. Burov**, Dynamics and structural development of metamorphic core complexes, *J. of Geophys. Res.*, 113, doi:[10.1029/2005JB003694](https://doi.org/10.1029/2005JB003694), 2008.
- A62.** **Burov , E.B.** and Molnar, P., Rayleigh-Taylor instability of a viscoelastic (Maxwell solid): Dependence of growth rates on wave number and elastic constants, *Earth and Planetary Sci. Lett*, 275 (3-4), 370-381, 2008.
- A63***. Yamato P., **Burov E.**, Agard P., Le Pourhiet L., Jolivet L., HP-UHP exhumation processes during continental subduction (W. Alps): when thermomechanical models reproduce P-T-t data, *Earth and Planet. Sci. Lett.*, 271, 63-75, 2008.
- A64.** Petit, C., **Burov E.**, et C. Tiberi, Strength of the lithosphere and strain localisation in the Baikal rift, *Earth and Planet. Sci. Lett.*, 269, 523-529, 2008.
- A65.** Guillou-Frottier, L., **Burov, E.**, Cloetingh, S., Le Goff, I., Deschamps, Y., Huet, B., Bouchot, V., Plume-induced dynamic instabilities near cratonic blocks: Implications for P-T-t paths and metallogeny, *Global and Planetary Change* (2011), doi: [10.1016/j.gloplacha.2011.10.007](https://doi.org/10.1016/j.gloplacha.2011.10.007), 2011.
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