

Publications – Jochen E. Mezger

Peer-reviewed articles

In Revision:

- 1) Mezger, J.E. & Régnier, J.-L.: Isobaric evolution of K-poor staurolite-cordierite schists during early stages of development of the Variscan Aston and Hospitalet domes, Central Pyrenees. - *Journal of Metamorphic Geology*.

Published:

- 2) Mezger, J.E., Felder, M. & Harms, F.-J. (2013): Crystalline rocks in the maar deposits of Messel: key to understand the geometries of the Messel Fault Zone and diatreme and the post-eruptional development of the basin fill. – *Zeitschrift der Deutschen Gesellschaft für Geowissenschaften* **164**, 639–662.
- 3) Mezger, J. E., Schnapperelle, S. & Rölke, C. (2012): Evolution of the Central Pyrenean Mérens fault controlled by near collision of two gneiss domes. - *Hallesches Jahrbuch für Geowissenschaften* **34**, 11–29.
- 4) Mezger, J. E. (2010): Rotation of irregular staurolite porphyroblasts in a simple shear dominated shear zone controlled by initial growth orientation and aspect ratio. - *Journal of Structural Geology* **32**, 1147–1157. doi: 10.1016/j.jsg.2010.07.002
- 5) Mezger, J. E. (2010): Mimicking syntectonic growth: cordierite overgrowth of earlier rotated staurolite porphyroblasts, strain caps and deflected foliation.- *Journal of Structural Geology* **32**, 703–708. doi: 10.1016/j.jsg.2010.04.012
- 6) Mezger, J. E. (2009): Transpressional tectonic setting during the main Variscan deformation: evidence from four structural levels in the Bossòst and Aston-Hospitalet mantled gneiss domes, central Axial Zone, Pyrenees.- *Bulletin de la Société Géologique de France* **180**, 199–207. doi: 10.2113/gssgfbull.180.3.199
- 7) Régnier, J.-L., Mezger, J. E. & Passchier, C. W. (2007): Metamorphism of Precambrian-Paleozoic schist of the Menderes core series and contact relationships with Proterozoic orthogneiss of the western Çine Massif , Anatolide Belt, western Turkey.- *Geological Magazine* **144**, 67–104. doi: 10.1017/S0016756806002640
- 8) Mezger, J. E. (2005): Comparison of the western Aston-Hospitalet and the Bossòst domes: Evidence for polymetamorphism and its implications for the Variscan tectonic evolution of the Axial Zone of the Pyrenees.- In: (eds.) Carosi, R., Dias, R., Iacopini, D. and Rosenbaum, G., The southern Variscan belt, *Journal of the Virtual Explorer* **19**, Paper 6, Electronic Edition, ISSN 1441-8142 doi:10.3809/jvirtex.2005.00122 (<http://www.virtualexplorer.com.au/journal/2005/19/mezger/>)
- 9) Mezger, J. E. & Passchier, C. W. (2004): Comment on "Identification of an underfilled foreland basin system in the Upper Devonian of the Central Pyrenees: implications for the Hercynian orogeny" by Souquet et al., *International Journal of Earth Sciences* 92, 316–337 (2003).- *International Journal of Earth Sciences* **93**, 467–470. doi: 10.1007/s00531-004-0395-6
- 10) Mezger, J. E., Passchier, C. W & Régnier, J.-L. (2004): Metastable staurolite–cordierite assemblage of the Bossòst dome: late Variscan decompression and polyphase metamorphism in the Axial Zone of the central Pyrenees. *Comptes Rendus Geoscience* **336**, 827–837. doi: 10.1016/j.crte.2003.12.024
- 11) Mezger, J. E. & Passchier, C. W. (2003): Polymetamorphism and ductile deformation of staurolite-cordierite schist of the Bossòst dome: indication for Variscan extension in the Axial Zone of the central Pyrenees. *Geological Magazine* **140**, 595–612. doi: 10.1017/S0016756803008112
- 12) Mezger, J. E. (2003): Geology of the Dezadeash Range and adjacent areas of the northern Coast Mountains (115A), southwestern Yukon: Re-examination of a terrane boundary.- In: *Yukon Exploration and Geology 2002* (edited by Emond, D. S. & Lewis, L. L.). Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, 149–163.

- 13) Mezger, J. E., Chacko, T. & Erdmer, P. (2001): Metamorphism along a late Mesozoic accretionary continental margin: a case study from the northern Coast Belt of the North American Cordillera.- *Journal of Metamorphic Geology* **19**, 121–138. doi: 10.1046/j.0263-4929.2000.00300.x
- 14) Mezger, J. E., Creaser, R. A., Erdmer, P. & Johnston, S. T. (2001): A Cretaceous back arc basin in the Coast Belt of the northern Canadian Cordillera: evidence from geochemical and neodymium isotope characteristics of the Kluane metamorphic assemblage, southwest Yukon. *Canadian Journal of Earth Sciences* **38**, 91–103. doi: 10.1139/cjes-38-1-91
- 15) Mezger, J. E. (2000): "Alpine-type" ultramafic rocks of the Kluane metamorphic assemblage, southwest Yukon: Oceanic crust fragments of a late Mesozoic back arc basin along the northern Coast Belt.- In: *Yukon Exploration and Geology 1999* (edited by Emond, D. S. & Weston, L. H.). Exploration and Geological Services Division, Indian and Northern Affairs Canada, Whitehorse, 127–138.

Unpublished theses and mapping reports

- 16) Mezger, J. E. (1997): Tectonometamorphic evolution of the Kluane metamorphic assemblage, SW Yukon: evidence for late Cretaceous eastward subduction of oceanic crust underneath North America.- Unpublished PhD. thesis, University of Alberta, Edmonton, Alberta, Canada, 306 p.
- 17) Mezger, J. E. (1991): Geophysikalische und strukturelle Untersuchungen einer mutmaßlichen Überschiebungszone in hochmetamorphem Gestein, Südost-Sri Lanka. [Geophysical and structural studies of a postulated thrust zone in high-grade metamorphic assemblages, southeast Sri Lanka] Unpublished diploma thesis, Johannes-Gutenberg-Universität Mainz, Germany, 94 p.
- 18) Mezger, J. E. (1989): Geologische Kartierung der Region Catalina-El Roble im nördlichen Tempisque Forearc-Becken, Costa Rica. [Geological map of the Catalina-El Roble region, northern Tempisque forearc basin, Costa Rica] Unpublished diploma mapping report, Johannes-Gutenberg-University Mainz, Germany, 38 p.

Conference proceedings / abstracts

- 19) Mezger, J.E. & Régnier, J.-L. (2012): Isobaric Evolution of staurolite-andalusite-cordierite-sillimanite schist in the Central Pyrenees – Early Variscan metamorphism of the Aston-Hospitalet domes. - 14. *Symposium "Tektonik, Struktur- und Kristallingeologie" (TSK 14)*, Kiel, March 26-April 1, 2012. *TSK 14 Program with Abstracts*: 72.
- 20) Mezger, J. E. (2011): The significance of steep regional fault and shear zones for the development of gneiss domes within the Variscan core zone of the Pyrenees: strike-slip or reverse faults? *FRAGILE EARTH: Geological Processes from Global to Local Scales and Associated Hazards. Joint Annual Meeting of the Geologische Vereinigung (GV) and the Geological Society of America (GSA)*, Munich, September 4-7, 2011, paper 14-6.
- 21) Mezger, J. E. (2010): Cadomian, Ordovician and Visean magmatism in the Axial Zone of the Central Pyrenees revealed by LA-ICP-MS U-Pb zircon dating.- 23. *Réunion des Sciences de la Terre*, Bordeaux, October 25-29, 2010, *Livre des Résumés*: 209.
- 22) Mezger, J. E. (2010): Cadomian, Ordovician and Variscan igneous events preserved in gneiss domes of the Central Pyrenean Axial Zone.- 13. *Symposium "Tektonik, Struktur- und Kristallingeologie" (TSK 13)*, Frankfurt (Main), April 6-12, 2010. *TSK 13 Conference abstracts and field guides*: 40.
- 23) Rölke, C., Schnapperelle, S. & Mezger, J. E. (2010): Structural and petrological map of the Mérens fault and shear zone, Aston-Hospitalet domes, Central Pyrenees.- 13. *Symposium "Tektonik, Struktur- und Kristallingeologie" (TSK 13)*, Frankfurt (Main), April 6-12, 2010. *TSK 13 Conference abstracts and field guides*: 49.
- 24) Schnapperelle, S., Rölke, C. & Mezger, J. E. (2010): Structural analyses of the Mérens fault and shear zone, Axial zone, Central Pyrenees.- 13. *Symposium "Tektonik, Struktur- und Kristallingeologie" (TSK 13)*, Frankfurt (Main), April 6-12, 2010. *TSK 13 Conference abstracts and field guides*: 52.

- 25) Mezger, J. E. (2009): Rotational behaviour of complex shaped porphyroblasts during general flow: microstructural investigation of staurolite-mica schist of the Bossòst structural-metamorphic dome, central Pyrenees - *International Conference and 99th Annual Meeting of the Geologische Vereinigung (GV)*, Göttingen, Germany, October 5–8, 2009. *GV Annual Meeting 2009*, 94.
- 26) Mezger, J. E. (2008): Gneiss and structural domes in the Variscan Pyrenees: a limited role for extension?- 12. *Symposium "Tektonik, Struktur- und Kristallingeologie" (TSK 12)*, Karlsruhe, April 2–4, 2008. *Geotectonic Research 95 Special Issue 1: TSK 12 Abstracts*: 114–115. (2. winner poster award)
- 27) Mezger, J. E. (2007): Orogen-parallel extension: strain partitioning around mantled gneiss domes - implications from the Axial Zone of the Pyrenees.- In: *Mechanics of Variscan Orogeny: a modern view on orogenic research*, September 13–15, 2007, Orléans, France. *Géologie de la France* **2007/2**: 136.
- 28) Felder, M., Mezger, J. E., Harms, F.-J. & Wilde, V. (2007): Lake Messel - The development of a volcanic basin.- *Limnogeology: tales of an evolving Earth - 4th Limnogeology Congress Barcelona*, Spain, July 11–14, 2007, *Programme with abstracts book*, 69.
- 29) Felder, M., Mezger, J. E., Harms, F.-J. & Wilde, V. (2006): Lake Messel - Origin and fate of a volcanic basin.- In: *Sediment 2006; abstracts and field trips* (June 6–11, 2006, Göttingen, Germany). - *Schriftenreihe der Deutschen Gesellschaft für Geowissenschaften* **45**, 66.
- 30) Mezger, J. E., Passchier, C. W., Piazzolo, S. & ten Grotenhuis, S. (2001): Emplacement of Gneiss Domes: an Integrated Study of Field work (Variscan Pyrenees) and Analogue Modelling.- *Journal of Conference Abstracts* **6**, 618.
- 31) Mezger, J. E., Passchier, C. W., ten Grotenhuis, S. & Piazzolo, S. (2001): Fabric development in gneiss domes and mantling metasedimentary rocks. In: *Deformation Mechanisms, Rheology & Tectonics meeting*, April 2–4, 2001, Noordwijkerhout, Netherlands. 115.
- 32) Mezger, J. E., Passchier, C. W., ten Grotenhuis, S. & Piazzolo, S. (2000): Evolution of gneiss domes: evidence from the Variscan Pyrenees (Southern France) and analogue modelling. *Geological Society of America Abstracts with Programs* **32(7)**, A98.
- 33) Mezger, J. E. & Passchier, C. W. (2000): Evolution of Gneiss Domes - Evidence from the Variscan Pyrenees.- In: 8. Symposium Tektonik, Strukturgeologie, Kristallingeologie (October 4–6, 2000, Freiburg i. Br.). *Terra Nostra* **2000/5**, 38.
- 34) Mezger, J. E. (1999): Mylonites of the southwestern Yukon: a record of Cretaceous accretion onto North America as a result of oblique subduction, and a case against large-scale dextral strike-slip along the Denali fault.- In: *Terrane Accretion along the Western Cordilleran Margin: Constraints on Timing and Displacement* (edited by Mahoney, J. B. & Haugerud, R. A.). *Penrose Conference*, Winthrop, Washington, June 21–27, 1999, 86–87.
- 35) Mezger, J. E. & Passchier, C. W. (1999): Did the Axial Zone of the Pyrenees act as a large scale dextral shear zone during the main Variscan deformation? First results from microtectonic analysis of mylonitic metasediments. *Journal of Conference Abstracts* **4**, 90.
- 36) Mezger, J. E. (1998): Microstructural analysis as a tool to retrace terrane accretion: a case study from the Coast Belt of the North American Cordillera.- *Tectonic Studies Group Annual Meeting 1998*, University of St. Andrews, Scotland, December 14–16, 57.
- 37) Mezger, J. E., Erdmer, P. & Mortensen, J. K. (1998): Sinistrale Verschiebung in der nordamerikanischen Kordillere während der Kreide: mikrotektonische Beobachtungen in Myloniten des südwestlichen Yukon Territoriums.- In: 7. Symposium Tektonik-Strukturgeologie-Kristallingeologie (March 25– 29, 1998, Freiberg, Germany) (edited by Kroner, U.). *Freiberger Forschungshefte C* **471**, 148–150.
- 38) Mezger, J. E. (1997): Metamorphic evolution of the northwestern Coast Belt of the North American Cordillera: constraints from petrographic and geothermobarometric studies of the Kluane metamorphic assemblage in the southwest Yukon. In: (edited by Cook, F. & Erdmer, P.) *Slave-Northern Cordillera Lithospheric Evolution (SNORCLE) Transect and Cordilleran Tectonics Workshop Meeting* (March 7–9, 1997), University of Calgary,

Lithoprobe Report **56**, 146–154.

- 39) Mezger, J. E. (1996): The Kluane Metamorphic Assemblage, SW Yukon - an accretionary wedge of backarc basin affinity.- *Geological Association of Canada/Mineral Association of Canada Program with Abstracts* **21**, A65.
- 40) Mezger, J. E. & Creaser, R. A. (1996): Backarc basin setting of the Kluane Metamorphic Assemblage and sinistral strike-slip along a proto-Denali fault: Evidence from isotope and microtectonic studies in the SW Yukon.- *Geological Society of America Abstracts with Programs* **28(7)**, A312.
- 41) Mezger, J. E. (1995): The Kluane Metamorphic Assemblage, SW Yukon - first steps towards developing a tectonic model.- *Cordilleran Tectonics Workshop Meeting 1995*, Ottawa-Carleton Geoscience Centre, February 10–12, 1995, 11.
- 42) Mezger, J. E. (1994): Structural and metamorphic evolution of the Kluane metamorphic belt, southern Yukon-first results.- *Cordilleran Tectonics Workshop 1994*, Univ. of Victoria, B.C., Jan 28–30, 1994, 19.

Book Reviews

- 43) “Spessart. Sammlung Geologischer Führer Band 106“ by M. Okrusch, G. Geyer & J. Lorenz., Gebr. Bornträger, 2011.- *Der Aufschluss* **64/3**, May/June 2013, 167–168.
- 44) “Mainzer Becken. Sammlung Geologischer Führer Band 79“ by P. Schäfer., Gebr. Bornträger, 2012.- *Der Aufschluss* **64/3**, May/June 2013, p. 168.
- 45) “Entlang der Oberen Donau. Vom Schwarzwald durch die Schwäbische Schweiz bis Ulm. Wanderungen in die Erdgeschichte 29“ by R.K.F. Meyer & H. Schmidt-Kaler, Verlag Dr. Friedrich Pfeil, 2011.- *Der Aufschluss* **63/6**, November/December 2012, p. 308.
- 46) “Harz, östlicher Teil mit Kyffhäuser Kristallin. Sammlung Geologischer Führer Band 104“ by H. J. Franzke & M. Schwab., Gebr. Bornträger, 2011.- *Der Aufschluss* **63/4**, Juli/August 2012, p. 224.
- 47) “Deutschlands Süden vom Erdmittelalter zur Gegenwart“ by J. Eberle, B. Eitel, W.D. Blümel & Wittmann, P., Spektrum Akademischer Verlag, 2010.- *Der Aufschluss* **63/1**, January/February 2012, p. 36.
- 48) “Das Eiszeitalter“ by J. Ehlers, Spektrum Akademischer Verlag, 2011.- *Der Aufschluss* **63/1**, January/February 2012, p. 42.
- 49) “Geological Evolution of the Canary Islands“ by Hans-Ulrich Schmincke & Mari Sumita, Görres-Verlag Koblenz, 2010.- *Der Aufschluss* **62/6**, November/December 2011, p. 306.
- 50) “Gesteinsbestimmung im Gelände“ by Roland Vinx, Spektrum Akademischer Verlag, 2011.- *Der Aufschluss* **62/6**, November/December 2011, 331–332.
- 51) “Geologie von Baden-Württemberg“ by Geyer, M., Nitsch, E. & Simon, T., Schweizerbart Science Publishers, 2011.- *Der Aufschluss* **62/3**, May/June 2011, 149–150.
- 52) “Atlas of Mylonites - and related microstructures“ by R. A.J. Trouw, C. W. Passchier & D. J. Wiersma, Springer Verlag, 2010.- *Der Aufschluss* **62/3**, May/June 2011, p. 174.
- 53) “Vulkane der Eifel - Aufbau, Entstehung und heutige Bedeutung“ by Hans-Ulrich Schmincke, Spektrum Akademischer Verlag, 2010.- *Der Aufschluss* **62/3**, May/June 2011, p. 192.
- 54) “Principles of Metamorphic Petrology“ by R.H. Vernon & G.L. Clarke, Cambridge University Press 2008.- *Der Aufschluss* **61/2**, March/April 2010, p. 128.