References

Ábalos, B., Puelles, P. & Gil Ibarguchi, J. I. 2003. Structural assemblage of high-pressure mantle and crustal rocks in a subduction channel (Cabo Ortegal, NW Spain). *Tectonics* **22**(2), 1-1 - 1-21.

Allemand, P. & Lardeaux, J. M. 1997. Strain partitioning and metamorphism in a deformable orogenic wedge; application to the Alpine belt. In: *Thermal and mechanical interactions in deep-seated rocks* **280; 1-2**. Elsevier, Amsterdam, Netherlands, 157-169.

Angermann, D., Klotz, J. & Reigber, C. 1999. Space-geodetic estimation of the Nazca-South America Euler vector. *Earth and Planetary Science Letters* **171**(3), 329-334.

Atkinson, B. K. 1987. Introduction to fracture mechanics and its geophysical applications. In: *Fracture mechanics of rock*. Acad Press, London, United Kingdom.

Bachmann, R., Oncken, O., Seifert, W. & Georgieva, V. submitted. Anatomy of a Fossil Subduction Channel - a quantitative view on changing structures along the plate interface.

Ballance, P. F., Scholl, D. W., Vallier, T. L., Stevenson, A. J., Ryan, H. F. & Herzer, R. H. 1989. Subduction of a Late Cretaceous seamount of the Louisville Ridge at the Tonga Trench; a model of normal and accelerated tectonic erosion. *Tectonics* **8**(5), 953-962.

Barazangi, M. & Isacks, B. L. 1976. Spatial distribution of earthquakes and subduction of the Nazca Plate beneath South America. *Geology (Boulder)* **4**(11), 686-692.

Beaumont, C., Ellis, S. & Pfiffner, A. 1999. Dynamics of sediment subduction-accretion at convergent margins: Short-term modes, long-term deformation, and tectonic implications. *Journal of Geophysical Research B: Solid Earth* **104**(8), 17,573-17,601.

Berger, G. W. & York, D. 1981. Geothermometry from $^{40}Ar/^{39}Ar$ dating experiments. *Geochimica et Cosmochimica Acta* **45**(6), 795-811.

Biehler, D. 1990. Strukturelle Eintwicklung der penninisch-ostalpinen Grenzzone am Beispiel der Arosa-Zone im Ost-Raetikon (Vorarlberg, Oesterreich). *Eclogae Geologicae Helvetiae* **83**(2), 221-239.

Bilek, S. L. & Lay, T. 1998. Variation of interplate fault zone properties with depth in the Japan subduction zone. *Science* **281**(5380), 1175-1178.

Bilek, S. L. & Lay, T. 1999. Rigidity variations with depth along interplate megathrust faults in subduction zones. *Nature (London)* **400**(6743), 443-446.

Bilek, S. L. & Lay, T. 2002. Tsunami earthquakes possibly widespread manifestations of frictional conditional stability. *Geophysical Research Letters* **29**(14), 18-1 - 18-4.

Birch, F. S. 1986. Isostatic, thermal, and flexural models of the subsidence of the north coast of Puerto Rico. *Geology (Boulder)* **14**(5), 427-429.

Bostick, N. H., Cashman, S. M., McCulloh, T. H. & Waddell, C. T. 1979. Vitrinite reflectance, present rock temperature, laumontite occurrence, and burial history in Los Angeles and Ventura basins, California. *AAPG Bulletin* **63**(3), 421-422.

Bousquet, R., Oberhänsli, R., Goffe, B., Jolivet, L. & Vidal, O. 1998. High-pressure-low-temperature metamorphism and deformation in the Bündnerschiefer of the Engadine window: implications for the regional evolution of the eastern central Alps. *Journal of Metamorphic Geology* **16**(5), 657-674.

Brown, K. M., Tryon, M. D., DeShon, H. R., Dorman, L. M. & Schwartz, S. Y. 2005. Correlated transient fluid pulsing and seismic tremor in the Costa Rica subduction zone. *Earth and Planetary Science Letters* **238**(1-2), 189-203.

Byrne, T. & Fisher, D. 1990. Evidence for a weak and overpressured decollement beneath sediment- dominated accretionary prisms. *Journal of Geophysical Research* **95**(B6), 9081-9097.

Calvert, A. J., Fisher, M. A., Ramachandran, K. & Trehu, A. M. 2003. Possible emplacement of crustal rocks into the forearc mantle of the Cascadia Subduction Zone. *Geophysical Research Letters* **30**(23), SDE 3-1 - SDE 3-4.

Chemenda, A. I., Hurpin, D., Tang, J. C., Stephan, J. F. & Buffet, G. 2001. Impact of arc-continent collision on the conditions of burial and exhumation of UHP/LT rocks: Experimental and numerical modelling. *Tectonophysics* **342**(1-2), 137-161.

Chemenda, A. I., Mattauer, M. & Bokun, A. N. 1996. Continental subduction and a mechanism for exhumation of high-pressure metamorphic rocks; new modelling and field data from Oman. *Earth and Planetary Science Letters* **143**(1-4), 173-182.

Chemenda, A. I., Mattauer, M., Malavieille, J. & Bokun, A. N. 1995. A mechanism for syn-collisional rock exhumation and associated normal faulting: results from physical modelling. *Earth and Planetary Science Letters* **132**(1-4), 225-232.

Clauser, C. & Huenges, E. 1995. Thermal conductivity of rocks and minerals. In: *Rock physics & phase relations; a handbook of physical constants* **3;**. American Geophysical Union, Washington, DC, United States, 105-126.

Cliff, R. A. & Meffan-Main, S. 2003. Evidence from Rb-Sr microsampling geochronology for the timing of Alpine deformation in the Sonnblick Dome, SE Tauern Window, Austria. In: *Geochronology; linking the isotopic record with petrology and textures* **220;**. Geological Society of London, London, United Kingdom, 159-172.

Clift, P. & Vannucchi, P. 2004. Controls on tectonic accretion versus erosion in subduction zones: Implications for the origin and recycling of the continental crust. *Reviews of Geophysics* **42**(2), RG2001 1-31.

Cloos, M. & Shreve, R. L. 1988a. Subduction-channel model of prism accretion, mélange formation, sediment subduction, and subduction erosion at convergent plate margins: 1. Background and description. *Pure and Applied Geophysics* **128**(3-4), 455-500.

Cloos, M. & Shreve, R. L. 1988b. Subduction-channel model of prism accretion, mélange formation, sediment subduction, and subduction erosion at convergent plate margins; Part II, Implications and discussion. *Pure and Applied Geophysics* **128**(3-4), 501-545.

Cowan, D. S. 1985. Structural styles in Mesozoic and Cenozoic mélanges in the Western Cordillera of North America. *Geological Society of America Bulletin* **96**(4), 451-462.

Cowan, D. S. 1999. Do faults preserve a record of seismic slip? A field geologist´s opinion. *Journal of Structural Geology* **21**, 995-1001.

Dallmeyer, R. D., Handler, R., Neubauer, F. & Fritz, H. 1998. Sequence of thrusting within a thick-skinned tectonic wedge: evidence from $^{40}Ar/^{39}Ar$ and Rb-Sr ages from the Austroalpine nappe complex of the eastern Alps. *Journal of Geology* **106**(1), 71-86.

DeMets, C., Gordon, R. G., Argus, D. F. & Stein, S. 1994. Effect of recent revisions to the geomagnetic reversal time scale on estimates of current plate motions. *Geophysical Research Letters* **21**(20), 2191-2194.

Deutsch, A. 1983. Datierungen an Alkaliamphibolen und Stilpnomelan aus der Suedlichen Platta-Decke (Graubuenden). *Eclogae Geologicae Helvetiae* **76**(2), 295-308.

Dickinson, W. R. 1970. Interpreting detrital modes of graywacke and arkose. *Journal of Sedimentary Petrology* **40**(2), 695-707.

Dickinson, W. R. & Suczek, C. A. 1979. Plate tectonics and sandstone compositions. *AAPG Bulletin* **63**(12), 2164-2182.

Dürr, S. B. 1992. Structural history of the Arosa Zone between Platta and Err nappes east of Marmorera (Grisons): multi-phase deformation at the Penninic-Austroalpine plate boundary. *Eclogae Geologicae Helvetiae* **85**(2), 361-374.

Eppinger, K. J., and Rosenfeld, U. 1996. Western margin and provenance of sediments of the Neuquén Basin (Argentina) in the Late Jurassic and Early Cretaceous. *Tectonophysics,* **259** (1-3), 229-244.

Faupl, P. & Wagreich, M. 1996. Basin analysis of the Gosau Group of the northern Calcareous Alps (Turonian-Eocene, Eastern Alps). In: *Oil and gas in Alpidic thrustbelts and basins of Central and Eastern Europe* **5;**. [publisher varies], [location varies], Federal Republic of Germany, 127-135.

Faure, G. 1986. *Principle of Isotope Geology.* Wiley, New York.

Ferreiro Mählmann, R. 1994. *Zur Bestimmung von Diagenesehöhe und beginnender Metamorphose - Temperaturgeschichte und Tektogenese des Austroalpins und Südpenninikums in Vorarlberg und Mittelbünden.*

Ferreiro Mählmann, R. 2001. Correlation of very low grade data to calibrate a thermal maturity model in a nappe tectonic setting, a case study from the Alps. *Tectonophysics* **334**(1), 1-33.

Fleck, R. J., Sutter, J. F. & Elliot, D. H. 1977. Interpretation of discordant $^{40}Ar/^{39}Ar$ age-spectra of Mesozoic tholeiites from Antarctica. *Geochimica et Cosmochimica Acta* **41**(1), 15-32.

Florineth, D. & Froitzheim, N. 1994. Transition from continental to oceanic basement in the Tasna nappe (Engadine window, Graubunden, Switzerland): evidence for early Cretaceous opening of the Valais Ocean. *Schweizerische Mineralogische und Petrographische Mitteilungen* **74**(3), 437-448.

Ford, M., Duchene, S., Gasquet, D. & Vanderhaeghe, O. 2006. Two-phase orogenic convergence in the external and internal SW Alps. *Journal of the Geological Society of London* **163**(5), 815-826.

Forsythe, R. 1982. The late Paleozoic to early Mesozoic evolution of Southern South America: a plate tectonic interpretation. *J. Geol. Soc.London*, **139**, 671-682.

Freeman, S. R., Inger, S., Butler, R. W. H. & Cliff, R. A. 1997. Dating deformation using Rb-Sr in white mica; greenschist facies deformation ages from the Entrelor shear zone, Italian Alps. *Tectonics* **16**(1), 57-76.

Frey, M. & Ferreiro Mählmann, R. 1999. Alpine metamorphism of the Central Alps. In: *The new metamorphic map of the Alps; 1:500000; 1:1000000* **79; 1**. Staebli Verlag AG, Zurich, Switzerland, 135-154.

Frey, M., Hunziker, J. C., Frank, W., Bocquet, J., Dal, P. G. V., Jager, E. & Niggli, E. 1974. Alpine metamorphism of the Alps; a review. *Schweizerische Mineralogische und Petrographische Mitteilungen = Bulletin Suisse de Mineralogie et Petrographie* **54**(2-3, Alpidische Metamorphosen in den Alpen), 247-290.

Froitzheim, N., Conti, P. & Van Daalen, M. 1997. Late Cretaceous, synorogenic, low-angle normal faulting along the Schlinig fault (Switzerland, Italy, Austria) and its significance for the tectonics of the Eastern Alps. *Tectonophysics* **280**(3-4), 267-293.

Froitzheim, N., Müntener, O., Puschig, A., Schmid, S. M. & Trommsdorff, V. 1996. Der penninisch-ostalpine Grenzbereich in Graubünden und in der Val Malenco. *Eclogae geol. Helv.* **89**(1), 617-634.

Froitzheim, N., Pleuger, J., Roller, S. & Nagel, T. 2003. Exhumation of high- and ultrahigh-pressure metamorphic rocks by slab extraction. *Geology* **31**(10), 925-928.

Froitzheim, N. & Rubatto, D. 1998. Continental breakup by detachment faulting; field evidence and geochronological constraints (Tasna Nappe, Switzerland). *Terra Nova* **The European Journal of Geosciences. 10**(4), 171-176.

Froitzheim, N., Schmid, S. M. & Conti, P. 1994. Repeated change from crustal shortening to orogen-parallel extension in the Austroalpine units of Graubünden. *Eclogae Geologicae Helvetiae* **87**(2), 559-612.

Gast, P. W. 1955. Abundance of Sr (super 87) during geologic time. *Geological Society of America Bulletin* **66**(11), 1449-1454.

Gebauer, D. 1999. Alpine geochronology of the central and western alps: New constraints for a complex geodynamic evolution. *Schweizerische Mineralogische und Petrographische Mitteilungen* **79**(1), 191-208.

Gerya, T. V. & Stöckhert, B. 2002. Exhumation rates of high pressure metamorphic rocks in subduction channels: The effect of Rheology. *Geophysical Research Letters* **29**(8), 102-1 - 102-4.

Gerya, T. V., Stöckhert, B. & Perchuk, A. L. 2002. Exhumation of high-pressure metamorphic rocks in a subduction channel: A numerical simulation. *Tectonics* **21**(6), 6-1 - 6-19.

Glodny, J., Bingen, B., Austrheim, H., Molina, J. F. & Rusin, A. 2002. Precise eclogitization ages deduced from Rb/Sr mineral systematics: The Maksyutov complex, Southern Urals, Russia. *Geochimica et Cosmochimica Acta* **66**(7), 1221-1235.

Glodny, J., Lohrmann, J., Echtler, H., Graefe, K., Seifert, W., Collao, S. & Figueroa, O. 2005. Internal dynamics of a paleoaccretionary wedge; insights from combined isotope tectonochronology and sandbox modelling of the south-central Chilean forearc. *Earth and Planetary Science Letters* **231**(1-2), 23-39.

Glodny, J., Ring, U. & Kühn, A. submitted. High-pressure metamorphism, thrusting, strike-slip and extensional shearing in the Tauern Window, Eastern Alps: All starting at the same time? *Tectonics*.

Graham, S. A., Hendrix, M. S., Wang, L. B. & Carroll, A. R. 1993. Collisional successor basins of western China; impact of tectonic inheritance on sand composition. *Geological Society of America Bulletin* **105**(3), 323-344.

Grevemeyer, I., Kaul, N., Diaz, N. J. L., Villinger, H. W., Ranero, C. R. & Reichert, C. 2005. Heat flow and bending-related faulting at subduction trenches; case studies offshore of Nicaragua and central Chile. *Earth and Planetary Science Letters* **236**(1-2), 238-248.

Gudmundsson, O. & Sambridge, M. 1998. A regionalized upper mantle (RUM) seismic model. *Journal of Geophysical Research B: Solid Earth* **103**(B4), 7121-7136.

Gürler, B. & Schmutz, H.-U. 1995. *Geologische Untersuchungen im SW-Teil des Unterengadiner Fensters.*

Haberland, C., Rietbrock, A., Lange, D., Bataille, K. & Hofmann, S. 2006. Interaction between forearc and oceanic plate at the south-central Chilean margin as seen in local seismic data. *Geophysical Research Letters* **33**(23), ; L23302.

Hahn, O., Strassmann, F., Mattauch, J. & Ewald, H. 1943. Geologische Altersbestimmung mit der Strontiummethode. *Chem. Zeitung* **67**, 55-56.

Handy, M. R. 1996. The transition from passive to active margin tectonics: a case study from the Zone of Samedan (eastern Switzerland). *Geologische Rundschau* **85**(4), 832-851.

Handy, M. R., Herwegh, M., Kamber, B. S., Tietz, R. & Villa, I. M. 1996. Geochronologic, petrologic and kinematic constraints on the evolution of the Err-Platta boundary, part of a fossil continent- ocean suture in the Alps (eastern Switzerland). *Schweizerische Mineralogische und Petrographische Mitteilungen* **76**(3), 453-474.

Handy, M. R. & Oberhänsli, R. 2004. Explanatory notes to the map: Metamorphic structure of the Alps, age map of the metamorphic structure of the Alps - tectonic interpretation and outstanding problems. In: *Metamorphic structure of the Alps* (edited by Oberhänsli, R.). *Mitteilungen der Österreichischen Mineralogischen Gesellschaft*, Wien, 227.

Hashimoto, Y., Nakaya, T., Ito, M. & Kimura, G. 2006. Tectonolithification of sandstone prior to the onset of seismogenic subduction zone: Evidence from tectonic mélange of the Shimanto Belt, Japan. *Geochemistry Geophysics Geosystems* **7**.

Howarth, R. J. & McArthur, J. M. 1997. Statistics for strontium isotope stratigraphy; a robust LOWESS fit to marine Sr-isotope curve for 0 to 206 Ma, with look-up table for derivation of numeric age. *Journal of Geology* **105**(4), 441-456.

Hubbert, M. K. & Rubey, W. W. 1959. Mechanics of fluid-filled porous solids and its application to overthrust faulting, [Part] 1 of Role of fluid pressure in mechanics of overthrust faulting. *Geological Society of America Bulletin* **70**(2), 115-166.

Hubbert, M. K. & Willis, D. G. 1957. Mechanics of hydraulic fracturing. *Jpt* **Journal of Petroleum Technology. 9**(6), 153-168.

Husen, S. & Kissling, E. 2001. Postseismic fluid flow after the large subduction earthquake of Antofagasta, Chile. *Geology* **29**(9), 847-850.

Husen, S., Kissling, E. & Flueh, E. R. 2000. Local earthquake tomography of shallow subduction in north Chile: A combined onshore and offshore study. *Journal of Geophysical Research B: Solid Earth* **105**(12), 28183-28198.

Hyndman, R. D. 1988. Dipping seismic reflectors, electrically conductive zones, and trapped water in the crust over a subducting plate. *Journal of Geophysical Research, B, Solid Earth and Planets* **93**(11), 13,391-13,405.

Hyndman, R. D. & Peacock, S. M. 2003. Serpentinization of the forearc mantle. *Earth and Planetary Science Letters* **212**, 417-432.

Hyndman, R. D. & Wang, K. 1995. The rupture zone of Cascadia great earthquakes from current deformation and the thermal regime. *Journal of Geophysical Research, B, Solid Earth and Planets* **100**(11), 22,133-22,154.

Hyndman, R. D., Yamano, M. & Oleskevich, D. A. 1997. The seismogenic zone of subduction thrust faults. *Island Arc* **6**(3), 244-260.

Inger, S. & Cliff, B. 1994. Dating high pressure metamorphism in the Western Alps; refining isotopic and tectonic interpretations. In: *Abstracts of the Eighth international conference on Geochronology, cosmochronology, and isotope geology* **S. Geological Survey Circular.** U S, Geological Survey, 149.

Ingersoll, R. V. & Suczek, C. A. 1979. Petrology and provenance of Neogene sand from Nicobar and Bengal fans, DSDP sites 211 and 218. *Journal of Sedimentary Petrology* **49**(4), 1217-1228.

Ito, S., Hino, R., Matsumoto, S., Shiobara, H., Shimamura, H., Kanazawa, T., Sato, T., Kasahara, J. & Hasegawa, A. 2000. Deep seismic structure of the seismogenic plate boundary in the off-Sanriku region, northeastern Japan. *Tectonophysics* **319**(4), 261-274.

Iwamori, H. 1998. Transportation of H_2O and melting in subduction zones. *Earth and Planetary Science Letters* **160**(1-2), 65-80.

Jarosewich, E., Nelen, J. A. & Norberg, J. A. 1980. Reference samples for electron microprobe analysis. *Geostandards Newsletter* **4**(1), 43-47.

Kenkmann, T., Hornemann, U. & Stoffler, D. 2000. Experimental generation of shock-induced pseudotachylites along lithological interfaces. *Meteoritics and Planetary Science* **35**(6), 1275-1290.

Kitamura, Y., Sato, K., Ikesawa, E., Ikehara, O. K., Kimura, G., Kondo, H., Ujiie, K., Onishi, C. T., Kawabata, K., Hashimoto, Y., Mukoyoshi, H. & Masago, H. 2005. Mélange and its seismogenic roof decollement; a plate boundary fault rock in the subduction zone; an example from the Shimanto Belt, Japan. *Tectonics*.

Koch, N. & Masch, L. 1992. Formation of Alpine mylonites and pseudotchylytes at the base of the Silvretta nappe, Eastern Alps. *Tectonophysics* **204**, 289-306.

Krawczyk, C. & SPOC-Team. 2003. Amphibious seismic survey images plate interface at 1960 Chile earthquake. *EOS* **84 (32)**(301), 304-305.

Krawczyk, C. M., Mechie, J., Lüth, S., Tašárová, Z., Wigger, P., Stiller, M., Brasse, H., Echtler, H. P., Araneda, M. & Bataille, K. 2006. Geophysical Signatures and Active Tectonics at the South-Central Chilean Margin. In: *The Andes - Active Subduction Orogeny* (edited by Oncken, O., Chong, G., Franz, G., Giese, P., Götze, H.-J., Ramos, V. A., Strecker, M. R. & Wigger, P.). Springer, Berlin, 171-192.

Kretz, R. 1983. Symbols for rock-forming minerals. *American Mineralogist* **68**(1-2), 277-279.

Kuhlemann, J., Dunkl, I., Bruegel, A., Spiegel, C. & Frisch, W. 2006. From source terrains of the Eastern Alps to the Molasse Basin; detrital record of non-steady-state exhumation. *Tectonophysics* **413**(3-4), 301-316.

Kukowski, N., Lallemand, S. E., Malavieille, J., Gutscher, M. A. & Reston, T. J. 2002. Mechanical decoupling and basal duplex formation observed in sandbox experiments with application to the western Mediterranean Ridge accretionary complex. In: *The accretionary complex of the Mediterranean Ridge; tectonics, fluid flow, and the formation of brine lakes* **186; 1-2**. Elsevier, Amsterdam, Netherlands, 29-42.

Kullerud, L. 1991. On the calculation of isochrons. *Chemical Geology* **87**, 115–124.

Lallemand, S. E., Schnuerle, P. & Malavieille, J. 1994. Coulomb theory applied to accretionary and nonaccretionary wedges; possible causes for tectonic erosion and/ or frontal accretion. *Journal of Geophysical Research, B, Solid Earth and Planets* **99**(6), 12,033-12,055.

Lange, D. 2007. The Southern Chilean Subduction Zone between 41° and 43.5°S: Seismicity, Structure and State of Stress. Unpublished PhD thesis, University Postdam.

Legros, F., Cantagrel, J. M. & Devouard, B. 2000. Pseudotachylyte (frictionite) at the base of the Arequipa volcanic landslide deposit (Peru); implications for emplacement mechanisms. *Journal of Geology* **108**(5), 601-611.

Linares, E., Cagnoni, M. C., DoCampo, M., and Ostera, H. A. 1988. Geochronology of metamorphic and eruptive rocks of southeastern Neuquén and northwestern Río Negro Provinces, Argentine Republic. *J. S. Am. Earth Sci.*, **1** (1), 53-61.

Liu, Y., Genser, J., Handler, R., Friedl, G. & Neubauer, F. 2001. $^{40}Ar/^{39}Ar$ muscovite ages from the Penninic-Austroalpine Plate boundary, Eastern Alps. *Tectonics* **20**(4), 526-547.

Lohrmann, J. 2002. Identification of parameters controlling the accretive and tectonically erosive mass-transfer mode at the South-Central and North Chilean forearc using scaled 2D sandbox experiments. In: *Scientific Technical Report*, 236.

Lohrmann, J., Kukowski, N., Krawczyk, C. M., Oncken, O., Sick, C., Sobiesiak, M. & Rietbrock, A. 2006. Subduction Channel Evolution in Brittle Fore-Arc Wedges - a Combined Study with Scaled Sandbox Experiments, Seismological and Reflection Seismic Data and Geological Field Evidence. In: *The Andes - Active Subduction Orogeny* (edited by Oncken, O., Chong, G., Franz, G., Giese, P., Götze, H.-J., Ramos, V., Strecker, M. & Wigger, P.). *Frontiers in Earth Sciences*. Springer, Berlin, 237-262.

Ludwig, K. R. 1999. Isoplot/Ex Ver 2.06: a Geochronological Toolkit for Microsoft Excel. *Berkeley Geochronology Center Special Publications* **1a**.

Maddock, R. H. 1992. Effects of lithology, cataclasis and melting on the composition of fault-generated pseudotachylytes in Lewisian gneiss, Scotland. In: *Frictional melting processes and products in geological materials* **204; 3-4**. Elsevier, Amsterdam, Netherlands, 261-278.

Manatschal, G., Engstrom, A., Desmurs, L., Schaltegger, U., Cosca, M., Müntener, O. & Bernoulli, D. 2006. What is the tectono-metamorphic evolution of continental break-up; the example of the Tasna ocean-continent transition. *Journal of Structural Geology* **28**(10), 1849-1869.

Manatschal, G., Müntener, O., Desmurs, L. & Bernoulli, D. 2003. An ancient ocean-continent transition in the Alps: The Totalp, Err-Platta, and Malenco units in the eastern Central Alps (Graubünden and northern Italy). *Ecologae Geologicae Helvetiae* **96**(1), 131-146.

Markley, M., Teyssier, C. & Cosca, M. 1995. Deformation vs. cooling ages; the application of the $^{40}Ar/^{39}Ar$ method to synkinematic white micas. In: *Geological Society of America, 1995 annual meeting* **27; 6**. Geological Society of America (GSA), Boulder, CO, United States, 217-218.

Martin, M. W., Kato, T. T., Rodriguez, C., Godoy, E., Duhart, P., McDonough, M. & Campos, A. 1999. Evolution of the late Paleozoic accretionary complex and overlying forearc-magmatic arc, south central Chile (38< degrees >-41< degrees >S): Constraints for the tectonic setting along the southwestern margin of Gondwana. *Tectonics* **18**(4), 582-605.

Masch, L. 1970. Die Pseudotachylite der Silvretta. *Dissertation*.

Masch, L. 1974. Untersuchung der Aufschmelzung und Deformation der Pseudotachylite der Silvretta (Österreich, Schweiz). *Neues Jahrbuch Mineralogie* **11**, 485-509.

Massonne, H. J. & Szpurka, Z. 1997. Thermodynamic properties of white micas on the basis of high-pressure experiments in the systems K_2O-MgO-Al_2O_3 – SiO_2 –H_2O and K_2O –FeO -Al_2O_3 –SiO_2 –H_2O. In: *High pressure metamorphism in nature and experiment* **41; 1-3**. Elsevier, Amsterdam, International, 229-250.

McArthur, J. M., Howarth, R. J. & Bailey, T. R. 2001. Strontium isotope stratigraphy; LOWESS Version 3; best fit to the marine Sr-isotope curve for 0-509 Ma and accompanying look-up table for deriving numerical age. *Journal of Geology* **109**(2), 155-170.

Melnick, D. 2007. Neogene seismotectonics of the south-central Chile margin: Subduction-related processes over various temporal and spatial scales. Unpublished PhD thesis, University Potsdam.

Meneghini, F. & Moore, J. C. 2007. Deformation and hydrofracture in a subduction thrust at seismogenic depths; the Rodeo Cove thrust zone, Marin Headlands, California. *Geological Society of America Bulletin* **119**(1-2), 174-183.

Merrihue, C. & Turner, G. 1966. Potassium-argon dating by activation with fast neutrons. *Journal of Geophysical Research* **78**, 2852-2857.

Micksch, U., Krawczyk, C. M., Ryberg, T., Groß, K., Buske, S., Stiller, M., Wigger, P. & Group, T. R. 2006. The Seismogenic Coupling Zone in Southern Central Chile, 38° S: Structure and state of the convergent margin between surface and down-dip end. *AGU Fall Meeting (San Francisco, USA 2006)*.

Mitchel, J. G. 1968. The argon-40/argon-39 method for potassium-argon age determination. *Geochimica et Cosmochimica Acta* **64**, 73-98.

Moore, J. C. & Saffer, D. 2001. Updip limit of the seismogenic zone beneath the accretionary prism of southwest Japan: An effect of diagenetic to low-grade metamorphic processes and increasing effective stress. *Geology* **29**(2), 183-186.

Moores, E. M. & Twiss, R. J. 1995. *Tectonics*. W. H. Freeman, New York.

Müller, R. D., Roest, W. R., Royer, J.-Y., Gahagan, L. M. & Sclater, J. G. 1997. Digital isochrons of the world's ocean floor. *Journal of Geophysical Research* **102**, 3211-3214.

Müller, W., Dallmeyer, R. D., Neubauer, F. & Thoeni, M. 1999. Deformation-induced resetting of Rb/ Sr and $^{40}Ar/^{39}Ar$ mineral systems in a low-grade, polymetamorphic terrane (Eastern Alps, Austria). *Journal of the Geological Society of London*.

Müller, W., Kelley, S. P. & Villa, I. M. 2002. Dating fault-generated pseudotachylytes: comparison of $^{40}Ar/^{39}Ar$ stepwise-heating, laser-ablation and Rb-Sr microsampling analyses. *Contributions to Mineralogy and Petrology* **144**, 57-77.

Müller, W., Mancktelow, N. & Meier, M. 2000. Rb-Sr microchrons of synkinematic mica in mylonites; an example from the DAV Fault of the Eastern Alps. *Earth and Planetary Science Letters* **180**(3-4), 385-397.

Nedimovic, M. R., Hyndman, R. D., Ramachandran, K. & Spence, G. D. 2003. Reflection signature of seismic and aseismic slip on the northern Cascadia subduction interface. *Nature* **424**(6947), 416-420.

Nelson, E. P. & Forsythe, R. D. 1989. Ridge collision at convergent margins; implications for Archean and post-Archean crustal growth. In: *Growth of the continental crust* **161; 3-4**. Elsevier, Amsterdam, Netherlands, 307-315.

Nievergelt, P., Liniger, M., Froitzheim, N. & Ferreiro-Mählmann, R. 1996. Early to mid Tertiary crustal extension in the central Alps: the Turba mylonite zone (eastern Switzerland). *Tectonics* **15**(2), 329-340.

Nüchter, J.-A. & Stöckhert, B. 2007. Vein quartz microfabrics indicating progressive evolution of fractures into cavities during postseismic creep in the middle crust. *Journal of Structural Geology* **In Press, Accepted Manuscript**.

Obara, K. 2002. Nonvolcanic deep tremor associated with subduction in southwest Japan. *Science* **296**(5573), 1679-1681.

Oleskevich, D. A., Hyndman, R. D. & Wang, K. 1999. The updip and downdip limits to great subduction earthquakes: Thermal and structural models of Cascadia, south Alaska, SW Japan, and Chile. *Journal of Geophysical Research* **104**(B7), 14965-14991.

Oliver, N. H. S. & Bons, P. D. 2001. Mechanisms of fluid flow and fluid-rock interaction in fossil metamorphic hydrothermal systems inferred from vein-wallrock patterns, geometry and microstructure doi:10.1046/j.1468-8123.2001.00013.x. *Geofluids* **1**(2), 137-162.

Oncken, O. 1998. Evidence for precollisional subduction erosion in ancient collisional belts; the case of the mid-European Variscides. *Geology (Boulder)* **26**(12), 1075-1078.

Oncken, O., Luschen, E., Mechie, J., Sobolev, S., Schulze, A., Gaedicke, C., Grunewald, S., Bribach, J., Asch, G., Giese, P., Wigger, P., Schmitz, M., Lueth, S., Scheuber, E., Haberland, C., Rietbrock, A., Gotze, H. J., Brasse, H., Patzwahl, R., Chong, G., Wilke, H. G., Gonzalez, G., Jensen, A., Araneda, M., Vieytes, H., Behn, G., Martinez, E., Rossling, R., Amador, J., Ricaldi, E., Chumacero, H. & Luterstein, R. 1999. Seismic reflection image revealing offset of Andean subduction-zone earthquake. *Nature* **397**(6717), 341-344.

Oncken, O., Sobolev, S., Stiller, M., Asch, G., Haberland, C., Mechie, J., Yuan, X., Lueschen, E., Giese, P., Wigger, P., Lueth, S., Scheuber, E., Goetze, J., Brasse, H., Buske, S., Yoon, M. K., Shapiro, S., Rietbock, A., Chong, G., Wilke, H. G., Gonzalez, G., Bravo, P., Vieytes, H., Martinez, E., Rossling, R. & Ricaldi, E. 2003. Seismic imaging of a convergent continental margin and plateau in the central Andes (Andean Continental Research Project 1996 (ANCORP'96)). *Journal of Geophysical Research, B, Solid Earth and Planets*.

Pacheco, J. F., Sykes, L. R. & Scholz, C. H. 1993. Nature of seismic coupling along simple plate boundaries of the subduction type. *Journal of Geophysical Research* **98**(B8), 14,133-14,159.

Parada, M. A., Palacios, C., and Lahsen, A. 1997. Jurassic extensional tectono-magmatism and associated mineralization of the El Faldeo polymetallic district, Chilean Patagonia: geochemical and isotopic evidence of crustal contribution. *Min. Dep*., **32**, 547-554.

Peacock, S. M. 2000. Thermal Structure and Metamorphic Evolution of Subducting Slabs.

Peacock, S. M. & Hyndman, R. D. 1999. Hydrous minerals in the mantle wedge and the maximum depth of subduction thrust earthquakes. *Geophysical Research Letters* **26**(16), 2517-2520.

Pfiffner, O. A., Ellis, S. & Beaumont, C. 2000. Collision tectonics in the Swiss Alps: Insight fro geodynamic modeling. *Tectonics* **19**(6), 1065-1094.

Platt, J. P. 1993. Exhumation of high-pressure rocks; a review of concepts and processes. *Terra Nova* **5**(2), 119-133.

Ratschbacher, L., Dingeldey, C., Miller, C., Hacker, B. R. & McWilliams, M. O. 2004. Formation, subduction, and exhumation of Penninic oceanic crust in the Eastern Alps; time constraints from $^{40}Ar/^{39}Ar$ geochronology. *Tectonophysics* **394**(3-4), 155-170 2 sheets.

Renard, F., Gratier, J. P. & Jamtveit, B. 2000. Kinetics of crack-sealing, intergranular pressure solution, and compaction around active faults. *Journal of Structural Geology* **22**(10), 1395-1407.

Ring, U. 1989. Tectonogenesis of the Penninic/ Austroalpine boundary zone: The Arosa Zone (Grisons-Rätikon area, Swiss-Austrian Alps). *Tübinger Geowissenschaftliche Arbeiten* **Reihe A**(1), 1-177.

Ring, U., Brandon, M. T., Willett, S. D. & Lister, G. S. 1999. Exhumation processes. In: *Exhumation processes; normal faulting, ductile flow and erosion* **154;**. Geological Society of London, London, United Kingdom, 1-27.

Ring, U., Ratschbacher, L. & Frisch, W. 1988. Plate-boundary kinematics in the Alps: Motion in the Arosa suture zone. *Geology* **16**, 696-698.

Ring, U., Ratschbacher, L., Frisch, W., Biehler, D. & Kralik, M. 1989. Kinematics of the Alpine plate-margin: structural styles, strain and motion along the Penninic-Austroalpine boundary in the Swiss-Austrian Alps. *Journal, Geological Society (London)* **146**(5), 835-849.

Ring, U., Ratschbacher, L., Frisch, W., Durr, S. & Borchert, S. 1990. The internal structure of the Arosa Zone (Swiss-Austrian Alps). *Geologische Rundschau* **79**(3), 725-739.

Rogers, G. & Dragert, H. 2003. Episodic tremor and slip on the Cascadia subduction zone: The chatter of silent slip. *Science* **300**(5627), 1942-1943.

Rosenau, M. R. 2004. Tectonics of the Southern Andean intra-arc zone (38°-42°S). Unpublished PhD thesis, FU Berlin.

Rubatto, D., Gebauer, D. & Fanning, M. 1998. Jurassic formation and Eocene subduction of the Zermatt-Saas-Fee ophiolites; implications for the geodynamic evolution of the Central and Western Alps. *Contributions to Mineralogy and Petrology* **132**(3), 269-287.

Ruff, L. & Kanamori, H. 1983. Seismic coupling and uncoupling at subduction zones. *Tectonophysics* **99**(2-4), 99-117.

Ruff, L. J. 1996. Large earthquakes in subduction zones; segment interaction and recurrence times. In: *Subduction top to bottom* **96;**. American Geophysical Union, Washington, DC, United States, 91-104.

Ruff, L. J. 1999. Dynamic stress drop of recent earthquakes: Variations within subduction zones. *Pure and Applied Geophysics* **154**(3-4), 409-431.

Saffer, D. M. & Marone, C. 2003. Comparison of smectite- and illite-rich gouge frictional properties: Application to the updip limit of the seismogenic zone along subduction megathrusts. *Earth and Planetary Science Letters* **215**(1-2), 219-235.

Sanders, D. & Höfling, R. 2000. Carbonate deposition in mixed siliclastic-carbonate environments on top of an orogenic wedge (Late Cretaceous, Northern Calcareous Alp, Austria). *Sedimentary Geology* **137**(3-4), 127-146.

Schlunegger, F., Slingerland, R. & Matter, A. 1998. Crustal thickening and crustal extension as controls on the evolution of the drainage network of the central Swiss Alps between 30 Ma and the present; constraints from the stratigraphy of the North Alpine Foreland basin and the structural evolution of the Alps. *Basin Research* **10**(2), 197-212.

Schmid, S. M., Fügenschuh, B., Kissling, E. & Schuster, R. 2004. Tectonic map and overall architecture of the Alpine orogen. *Eclogae geol. Helv.* **97**, 93-117.

Schmid, S. M., Pfiffner, O. A., Froitzheim, N., Schönborn, G. & Kissling, E. 1996. Geophysical-geological transect and tectonic evolution of the Swiss-Italian Alps. *Tectonics* **15**(5), 1036-1064.

Schmutz, H.-U. 1995. Die makrsokopische Geometrie der Pseudotachylite in der Silvretta-Decke am NW-Rand des Unterengadiner Fensters. In: *Geologische Untersuchungen im SW-Teil des Unterengadiner Fensters. Beiträge zur geologischen Karte der Schweiz.* **166**, 73-123.

Scholz, C. H. 1998. Earthquakes and friction laws. *Nature (London)* **391**(6662), 37-42.

Schwartz, S. Y. & Rokosky, J. M. 2007. Slow slip events and seismic tremor at circum-pacific subduction zones. *Reviews of Geophysics* **45**(RG3004), doi:10.1029/2006RG000208.

Secor, D. T., Jr. 1965. Role of fluid pressure in jointing. *American Journal of Science* **263**(8), 633-646.

Selley, R. C. 1998. *Elements of petroleum geology*. Academic Press, San Diego.

Shand, S. J. 1916. The pseudotachylyte of Parijs (Orange Free State), and its relation to trap-shotten gneis and flinty crush-rock. *Geological Society of London Quarterly Journal*, 198-221.

Shimamoto, T. & Nagahama, H. 1992. An argument against the crush origin of pseudotachylytes based on the analysis of clast-size distribution. *Journal of Structural Geology* **14**(8-9), 999-1006.

Sibson, R. H. 1975. Generation of pseudotachylyte by ancient seismic faulting. *The Geophysical Journal of the Royal Astronomical Society* **43**(3), 775-794.

Sibson, R. H. 1981. Fluid flow accompanying faulting; field evidence and models. In: *Earthquake prediction; an international review* **4**. American Geophysical Union, Washington, DC, United States, 593-603.

Sobiesiak, M. 2000. Fault plane structure of the Antofagasta, Chile earthquake of 1995. *Geophysical Research Letters* **27**(4), 577-580.

Sobolev, S. V., Babeyko, A. Y., Koulakov, I. & Oncken, O. 2006. Mechanism of the Andean Orogeny: Insight from Numerical Modeling. In: *The Andes - Active Subduction Orogeny* (edited by Oncken, O., Chong, G.,

Franz, G., Giese, P., Götze, H.-J., Ramos, V., Strecker, M. & Wigger, P.). *Frontiers in Earth Sciences*. Springer, Berlin, 513-535.

Spear, F. S. 1995. Metamorphic Phase Equilibria and Pressure-Temperature-Time Paths. *Mineralogical Society of America Monograph*, 799.

Spicher, A. 1980. Tectonic map of Switzerland 1:500.000. In: *Atlas der Schweiz*. Bundesamt für Landestopographie, 3084 Wabern.

Spiegel, C., Kuhlemann, J., Dunkl, I., Frisch, W., von, E. H. & Balogh, K. 2000. The erosion history of the Central Alps; evidence from zircon fission track data of the foreland basin sediments. *Terra Nova* **12**(4), 163-170.

Spray, J. G. 1987. Artificial generation of pseudotachylyte using friction welding apparatus; simulation of melting on a fault plane. *Journal of Structural Geology* **9**(1), 49-60.

Spray, J. G. 1992. A physical basis for the frictional melting of some rock-forming minerals. *Tectonophysics* **204**(3-4), 205-221.

Spray, J. G. 1995. Pseudotachylyte controversy: fact or friction? *Geology* **23**(12), 1119-1122.

Stampfli, G. M., Borel, G. D., Marchant, R. & Mosar, J. 2002. Western Alps geological constraints on western Tethyan reconstructions. *Journal of the Virtual Explorer (online)*.

Thöni, M. 1981. Degree and evolution of the Alpine metamorphism in the Austroalpine Unit W of the Hohe Tauern in the light of K/ Ar and Rb/ Sr age determinations on micas. *Jahrbuch der Geologischen Bundesanstalt Wien* **124**(1), 111-174.

Thöni, M. 1988. Rb-Sr Isotopic Resetting in Mylonites and Pseudotachylites: Implications for the Detachment and Thrusting of the Austroalpine Basement Nappes in the Eastern Alps. *Jb. Geol. B.-A.* **131**(1), 169-201.

Thöni, M. 1999. A review of geochronological data from the Eastern Alps. *SMPM* **79**, 209-230.

Tichelaar, B. W. & Ruff, L. J. 1993. Depth of seismic coupling along subduction zones. *Journal of Geophysical Research* **98**(B2), 2017-2037.

Trautwein, B., Dunkl, I., Kuhlemann, J. & Frisch, W. 2001. Cretaceous-Tertiary Rhenodanubian flysch wedge (Eastern Alps); clues to sediment supply and basin configuration from zircon fission-track data. *Terra Nova* **13**(5), 382-393.

Villa, I. M. 1998. Isotopic closure. *Terra Nova* **10**(1), 42-47.

von Blanckenburg, F. & Davies, J. H. 1995. Slab breakoff: a model for syncollisional magmatism and tectonics in the Alps. *Tectonics* **14**(1), 120-131.

von Eynatten, H. & Gaupp, R. 1999. Provenance of cretaceous synorogenic sandstones in the Eastern Alps: Constraints from framework petrography, heavy mineral analysis and mineral chemistry. *Sedimentary Geology* **124**(1-4), 81-111.

von Huene, R. & Scholl, D. W. 1991. Observations at convergent margins concerning sediment subduction, subduction erosion, and the growth of continental crust. *Reviews of Geophysics* **29**(3), 279-316.

Wagreich, M. 1991. Subsidenzanalyse an kalkalpinen Oberkreideserien der Gosau-Gruppe (Oesterreich). In: *Sediment '90; 5 Treffen deutschsprachiger Sedimentologen* **1990; 11**. E Schweizerbart'sche Verlagsbuchhandlung, Stuttgart, Federal Republic of Germany, 1645-1657.

Wagreich, M. 1995. Subduction tectonic erosion and late Cretaceous subsidence along the northern Austroalpine margin (eastern Alps, Austria). *Tectonophysics* **242**(1-2), 63-78.

Wagreich, M. 2001. A 400-km-long piggyback basin (upper Aptian-lower Cenomanian) in the Eastern Alps. *Terra Nova* **13**(6), 401-406.

Wagreich, M. & Decker, K. 2001. Sedimentary tectonics and subsidence modelling of the type Upper Cretaceous Gosau basin (Northern Calcareous Alps, Austria). *International Journal of Earth Sciences* **90**(3), 714-726.

Wagreich, M. & Krenmayr, H. G. 2005. Upper Cretaceous oceanic red beds (CORB) in the Northern Calcareous Alps (Nierental Formation, Austria): Slope topography and clastic input as primary controlling factors. *Cretaceous Research* **26**(1), 57-64.

Wang, K. & Hu, Y. 2006. Accretionary prisms in subduction earthquake cycles; the theory of dynamic Coulomb wedge. *Journal of Geophysical Research*.

Weh, M. & Froitzheim, N. 2001. Penninic cover nappes in the Prattigau half-window (Eastern Switzerland): Structure and tectonic evolution. *Eclogae Geologicae Helvetiae* **94**(2), 237-252.

Wenk, H. R. 1978. Are pseudotachylites products of fracture or fusion? *Geology (Boulder)* **6**(8), 507-511.

Wickman, F. E. 1948. Isotope ratios, a clue to the age of certain marine sediments. *Journal of Geology* **56**(1), 61-66.

Winkler, W. 1988. Mid-to early Late Cretaceous flysch and melange formations in the western part of the Eastern Alps; palaeotectonic implications. *Jahrbuch der Geologischen Bundesanstalt Wien* **131**(2), 341-389.

Yardley, B. 1984. Fluid migration and veining in the Connemara Schists, Ireland. In: *Fluid-rock interactions during metamorphism* (edited by Walther, J. V. & Wood, B. J.). Springer, New York, 109-131.

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