

Refereed Journal Articles

- Rodriguez, J.A.P., Gulick, V., Baker, V., **Platz, T.**, Tanaka, K.L., Fairén, A.G., Miyamoto, H., Kargel, J. Decameter/hectometer-scale landforms reveal recent catastrophic water floods on Mars. *Nature Geoscience* (submitted).
- Rodriguez, J.A.P., Tanaka, K.L., **Platz, T.**, Fairén, A.G., Kargel, J., Kim, K.J., Miyamoto, H., and Kolb, E.J. South polar troughs of Mars: types and dominant formational mechanisms. *Geophysical Research Letters* (submitted).
- Platz, T.**, Ferguson, R.L., McGuire, P.C., Keszthelyi, L., Walter, S. Eruption styles of satellite vents at Tharsis Tholus (Mars) and implications for the magma plumbing system. In: Platz, T., Massironi, M., Byrne, P.K., Hiesinger, H. (eds): *Volcanism and Tectonism Across the Inner Solar System*. Geological Society London Special Publication. (in review).
- Tanaka, K.L., Skinner, J.A., Jr., Dohm, J.M., Irwin, R.P., III, Kolb, E.J., Fortezzo, C.M., **Platz, T.**, Michael, G.G., and Hare, T.M. Geologic Map of Mars. U.S. Geological Survey Scientific Investigations Map SIM, 1:20,000,000 (in revision).
- Chevrel, M.O., **Platz, T.**, Hauber, E., Baratoux, D., Lavallée, Y., and Dingwell, D.B. Lava flow rheology: a comparison of morphological and petrological methods. *Earth and Planetary Science Letters* (accepted).
- Hauber, E., **Platz, T.**, Reiss, D., Le Deit, L., Kleinhans, M.G., Marra, W.A., de Haas, T., and Carbonneau, P. (2013). Asynchronous formation of Hesperian and Amazonian-aged deltas on Mars and implications for climate. *Journal of Geophysical Research – Planets* 118, 1-16 (SP Early Mars III: Geologic and Hydrologic Evolution, Physical and Climate Environments, and the Implications for Life) (doi: 10.1002/jgre.20107).
- Platz, T.**, Michael, G.G., Tanaka, K.L., Skinner, J.A., Jr., and Fortezzo, C.M. (2013). Crater-based dating of geological units on Mars: methods and application for the new global geological map. *Icarus* 225, 806-827. (doi: 10.1016/j.icarus.2013.04.021).
- Davila, A.F., Fairén, A.G., Stokes, C.R., **Platz, T.**, Rodriguez, A.P., Lacelle, D., Dohm, J., and Pollard, W. (2013). Evidence for Hesperian glaciations along the Martian dichotomy boundary. *Geology* 41, 755-758. (doi: 10.1130/G34201.1)
- Skinner, J.A., Jr., Tanaka, K.L., and **Platz, T.** (2012). Widespread loess-like deposit in the Martian northern lowlands identifies Middle Amazonian climate excursion. *Geology* 40, 1127-1130. (doi:10.1130/G33513.1).
- Tirsch, D., Craddock, R.A., **Platz, T.**, Maturilli, A., Helbert, J., and Jaumann, R. (2012). Spectral and petrologic analyses of basaltic sands in Ka'u Desert (Hawaii) – Implications for the dark dunes on Mars. *Earth Surface Processes and Landforms* 37, 434-448. (doi:10.1002/esp.2266).
- Michael, G.G., **Platz, T.**, Kneissl, T., and Schmedemann, N. (2012). Planetary surface dating from crater size-frequency distribution measurements: a quantitative test of spatial randomness. *Icarus* 218, 169-177. (doi:10.1016/j.icarus.2011.11.033).

- Platz, T.**, Cronin, S.J., Procter, J.N., Neall, V.E., and Foley, S.F. (2012). Non-explosive, dome-forming eruptions at Mt. Taranaki, New Zealand. *Geomorphology* (Special Issue: Volcano Geomorphology: landforms, processes and hazards) 136, 15-30. (doi:10.1016/j.geomorph.2011.06.016).
- Platz, T.** and Michael, G.G. (2011). Eruption history of the Elysium Volcanic Province, Mars. *Earth and Planetary Science Letters* 312, 140-151. (doi:10.1016/j.epsl.2011.10.001).
- Hauber, E., Brož, P., Jagert, F., Jodłowski, P., and **Platz, T.** (2011). Very recent and wide-spread basaltic volcanism on Mars. *Geophysical Research Letters* 38, L10201. (doi:10.1029/2011GL047310).
- Musiol, S., Cailleau, B., **Platz, T.**, Kneissl, T., Dumke, A., and Neukum, G. (2011). Outflow activity near Hadriaca Patera, Mars - Fluid-tectonic interaction investigated with HRSC stereo data and finite-element modelling. *Journal of Geophysical Research* 116, E08001. (doi:10.1029/2010JE003791).
- Platz, T.**, Münn, S., Walter, T.R., McGuire, P.C., Dumke, A., and Neukum, G. (2011). Vertical and lateral collapse of Tharsis Tholus, Mars. *Earth and Planetary Science Letters* 305, 445-455. (doi:10.1016/j.epsl.2011.03.012).
- Pondrelli, M., Rossi, A.P., **Platz, T.**, Ivanov, A., Marinangeli, L., and Balivaa, A. (2011). Geological, geomorphological, facies and allostratigraphic maps of the Eberswalde fan delta. *Planetary and Space Science* (Special Volume - Geological Mapping of Mars) 59, 1166-1178. (doi:10.1016/j.pss.2010.10.009).
- Platz, T.**, Michael, G.G., and Neukum, G. (2010). Confident thickness estimates for planetary surface deposits from concealed crater populations. *Earth and Planetary Science Letters* 293, 388-395. (doi:10.1016/j.epsl.2010.03.012).
- Procter, J.N., Cronin, S.J., **Platz, T.**, Patra, A., Dalbey, K., Sheridan, M., and Neall, V. (2010). Mapping block-and-ash flow hazards based on Titan 2D simulations: a case study from Mt. Taranaki, NZ. *Natural Hazards* 53, 483-501. (doi:10.1007/s11069-009-9440-x).
- Turner, M.B., Cronin, S.J., Bebbington, M.S., and **Platz, T.** (2008). Developing a probabilistic eruption forecast for dormant volcanoes; a case study from Mt Taranaki, New Zealand. *Bulletin of Volcanology* 70, 507-515. (doi:10.1007/s00445-007-0151-4).
- Platz, T.**, Cronin, S.J., Cashman, K.V., Stewart, R.B., and Smith, I.E.M. (2007). Transition from effusive to explosive phases in andesite eruptions - a case-study from the AD1655 eruption of Mt. Taranaki, New Zealand. *Journal of Volcanology and Geothermal Research* 161, 15-34. (doi:10.1016/j.jvolgeores.2006.11.005).
- Platz, T.**, Cronin, S.J., Smith, I.E.M., Turner, M.B., and Stewart, R.B. (2007). Improving the reliability of microprobe-based analyses of andesitic glasses for tephra correlation. *The Holocene* 17, 573-583. (doi:10.1177/0959683607078982).
- Lube, G., Cronin, S.J., **Platz, T.**, Freundt, A., Procter, J., Henderson, C., and Sheridan, M.F. (2007). Flow and deposition of pyroclastic granular flows: A type example from the 1975 Ngauruhoe eruption, New Zealand. *Journal of Volcanology and Geothermal Research* 161, 165-186. (doi:10.1016/j.jvolgeores.2006.12.003).

**Platz, T.**, Foley, S.F., and André, L. (2004). Low-pressure fractionation of the Nyiragongo volcanic rocks, Virunga Province, D.R. Congo. *Journal of Volcanology and Geothermal Research* 136, 269-295. (doi:10.1016/j.volgeores.2004.05.020).

#### Book chapter

Rodriguez, J.A.P. and **Platz, T.** (2013). Types and formational mechanisms of south polar troughs, Mars. In: Fairén, A.G. (ed.). *Mars: Evolution, Geology and Exploration*. Nova Science Publishers, Inc. (ISBN: 978-1-62618-102-1)

#### Extended Conference Abstracts

Hauber, E., **Platz, T.**, Reiss, D., Le Deit, L., Kleinhans, M.G., Carbonneau, P., de Haas, T., and Marra, W.A. (2013). Old or not so old: That is the question for deltas and fans in Xanthe Terra, Mars. 44rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIV), held March 18-22, 2013 in The Woodlands, Texas id. 2513.

McGuire, P.C., Arvidson, R.E., Bishop, J.L., Brown, A.J., Cull, S., Green, R.O., Gross, C., Hash, C.D., Hauber, E., Humm, D.C., Jaumann, R., Le Deit, L., Malaret, E.R., Martin, T.Z., Marzo, G.A., Morgan, M.F., Murchie, S.L., Mustard, J.F., Neukum, G., Parente, M., **Platz, T.**, Roush, T.L., Seelos, F.P., Seelos, K.D., Smith, M.D., Sowe, M., Tirsch, D., Walter, S., Wendt, L., Wiseman, S.M., and Wolff, M.J. (2013). Mapping minerals on Mars with CRISM: Atmospheric and photometric correction for MRDR map tiles, version 2, and comparison to OMEGA. 44rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIV), held March 18-22, 2013 in The Woodlands, Texas id. 1581.

**Platz, T.**<sup>P</sup>, Michael, G.G., Hartmann, O., and Kenkmann, T. (2013). Earth's expected impact crater record on regional and global scales. 44rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIV), held March 18-22, 2013 in The Woodlands, Texas id. 2838.

**Platz, T.**<sup>P</sup>, Michael, G., Tanaka, K.L., Skinner, J.A., Jr., and Fortezzo, C.M. (2013). Crater dating of geological units on Mars: Methods and application for the new global geological map. 44rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIV), held March 18-22, 2013 in The Woodlands, Texas id. 2340.

Jodlowski, P., **Platz, T.**<sup>P</sup>, and Michael, G.G. (2013). Eruption history of the Syrtis Major Volcanic Province, Mars. 44rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIV), held March 18-22, 2013 in The Woodlands, Texas id. 2322.

Voelker, M., **Platz, T.**, Tanaka, K.L., Fortezzo, C., Ferguson, R., and Hare, T.M. (2013). Hyperconcentrated flow deposits and valley formation of Havel Vallis, Xanthe Terra, Mars. 44rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIV), held March 18-22, 2013 in The Woodlands, Texas id. 2886.

- Hauber, E., **Platz, T.**, Kleinhans, M., Le Deit, L., Carbonneau, P., de Haas, T., Marra, W., and Reiss, D. (2012). Old or not so old: That ist the question for deltas and fans in Xanthe Terra, Mars. Third Conference on Early Mars: Geologic, Hydrologic, and Climatic Evolution and the Implications for Life, Nevada, USA, #7078.
- Tanaka, K.L., **Platz, T.**, Michael, G., Robins, S., Fortezzo, C.M., Skinner, Jr., J.A., Dohm, J.M., Irwin, III, R.P., Kolb, E.J., and Hare, T.M. (2012). Early Mars revisited by new global geologic mapping and crater counting. Third Conference on Early Mars: Geologic, Hydrologic, and Climatic Evolution and the Implications for Life, Nevada, USA, #7033.
- Platz, T.**<sup>P</sup>, Michael, G.G., Skinner, J.A., Tanaka, K.L., Kneissl, T., and Fortezzo, C.M. (2012). Absolute age determinations for regional geologic units: a case study of the Middle Noachian unit in the Arabia-Sabaea-Noachis Terrae region, Mars. 43rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIII), held March 19-23, 2012 in The Woodlands, Texas id. 2686.
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- Jodlowski, P., **Platz, T.**<sup>P</sup>, and Michael, G.G. (2012). Preliminary eruption history of the Syrtis Major Volcanic Province, Mars. 43rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIII), held March 19-23, 2012 in The Woodlands, Texas id. 2494.
- Tanaka, K.L., Dohm, J.M., Fortezzo, C.M., Irwin, III, R.P., Kolb, E.J., Skinner, Jr., J.A., Hare, T.M., **Platz, T.**, Michael, G., and Robbins, S. (2012). The geology of Mars: What the new global map show. 43rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIII), held March 19-23, 2012 in The Woodlands, Texas id. 2702.
- Tanaka, K.L., Rodriguez, J.A.P., Fortezzo, C.M., **Platz, T.**, Michael, G., and Robbins, S. (2012). Geologic history of Valles Marineris, Mars, revisited. 43rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIII), held March 19-23, 2012 in The Woodlands, Texas id. 2821.
- Michael, G.G., **Platz, T.**, Kneissl, T., and Schmedemann, N. (2012). Planetary surface dating from crater size-frequency distribution measurements: spatial randomness and clustering. 43rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIII), held March 19-23, 2012 in The Woodlands, Texas id. 2486.
- Rodriguez, J.A.P., Tanaka, K.L., and **Platz, T.** (2012). Types and formational mechanisms of south polar troughs, Mars. 43rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIII), held March 19-23, 2012 in The Woodlands, Texas id. 2613.
- Voelker, M., **Platz, T.**<sup>P</sup>, Tanaka, K.L., Fortezzo, C.M., Ferguson, R., and Hare, T.M. (2012). Geological mapping of Havel Vallis, Xanthe Terra, Mars: stratigraphy and reconstruction of valley formation. 43rd Lunar and Planetary Science Conference, (Lunar and Planetary Science XLIII), held March 19-23, 2012 in The Woodlands, Texas id. 2738.
- Platz, T.**<sup>P</sup> and Michael, G.G. (2011). Eruption history of the Elysium Volcanic Centre, Mars. 42st Lunar and Planetary Science Conference, (Lunar and Planetary Science XLII), held March 7-11, 2011 in The Woodlands, Texas id. 2687.

- Platz, T.<sup>P</sup>**, Hauber, E., Chevrel, O., Le Deit, L., Trauthan, F., Preusker, F., Jauman, R., and Neukum, G. (2011). Preliminary results on lava morphologies and vent structures: an example from the Western Volcanic Province, Iceland. 42st Lunar and Planetary Science Conference, (Lunar and Planetary Science XLII), held March 7-11, 2011 in The Woodlands, Texas id. 2108.
- Musiol, S., Williams, D.A., van Gasselt, S., **Platz, T.**, Dumke, A., and Neukum, G. (2011). Investigation of a landslide mechanism for the formation of the Olympus Mons scarp and aureole lobes. 42st Lunar and Planetary Science Conference, (Lunar and Planetary Science XLII), held March 7-11, 2011 in The Woodlands, Texas id. 1932.
- Tanaka, K.L., Fortezzo, C.M., Dohm, J.M., Irwin, III, R.P., Kolb, E.J., Skinner, Jr., J.A., Hare, T.M., **Platz, T.**, and Robbins, S. (2011). Completing the new global geologic map of Mars. 42st Lunar and Planetary Science Conference, (Lunar and Planetary Science XLII), held March 7-11, 2011 in The Woodlands, Texas id. 2265.
- Hauber, E., **Platz, T.**, Le Deit, L., Chevrel, O., Hoffmann, B., Kuhlmann, L., Trauthan, F., Preusker, F., and Jaumann, R. (2011). Mapping of postglacial Icelandic lava flows as analogues for Mars. 42st Lunar and Planetary Science Conference, (Lunar and Planetary Science XLII), held March 7-11, 2011 in The Woodlands, Texas id. 1749.
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- Platz, T.<sup>T</sup>**, Michael, G.G., and Neukum, G. (2010). Confident Thickness Estimates for Planetary Surface Deposits from Concealed Crater Populations. 41st Lunar and Planetary Science Conference, (Lunar and Planetary Science XLI), held March 1-5, 2010 in The Woodlands, Texas id. 2348.
- Platz, T.<sup>T</sup>**, McGuire, P.C., Münn, S., Cailleau, B., Dumke, A., Neukum, G., and Procter, J.N. (2009). Growth and Destruction Cycles and Eruption Styles at Tharsis Tholus, Mars. 40th Lunar and Planetary Science Conference, (Lunar and Planetary Science XL), held March 23-27, 2009 in The Woodlands, Texas id.1522.

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- Tirsch, D., Craddock, R.A., **Platz, T.**, Maturilli, A., Helbert, J., and Jaumann, R. (2012). An analogy study of basaltic dune sands on Mars and Earth. 3rd Conference on Terrestrial Mars Analogues, Marrakesh, October 2012.
- Chevrel, M.O., **Platz, T.**, Hauber, E., Baratoux, D., and Dingwell, D.B. (2012). Rheology of Icelandic lava flows as analogues for Mars: comparison between morphometric and experimental determinations. EGU General Assembly 2012, Geophysical Research Abstracts, Vol. 14, EGU2012-8876-1.
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- Hauber, E., Arnold, L., and **Platz, T.** (2011). Rates of recent volcanism in the Tharsis Region, Mars. American Geophysical Union, Fall meeting 2011, P21B-1664.
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- Tanaka, K.L., **Platz, T.**<sup>P</sup>, Fortezzo, C., and Rodriguez, J.A.P. (2011). Plateau geology south of Valles Marineris, Mars: Implications for canyon formational history. EPSC-DPS Joint Meeting 2011, EPSC-DPS2011-269.
- Dohm, J.M., **Platz, T.**<sup>P</sup>, and Tanaka, K.L. (2011). Pilot investigation of reported volcanic flow sequences in the Syria-Sinai-Solis province. EPSC-DPS Joint Meeting 2011, EPSC-DPS2011-1787.
- Chevrel, M.O., **Platz, T.**, Hauber, E., and Dingwell, D.B. (2011). Rheology of lava flows from Iceland derived from geometrical parameters and experimental techniques. IUGG, Melbourne, abstract #4029.
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- Platz, T.**<sup>P</sup> and Michael, G.G. (2011). Eruption history of the Elysium Volcanic Centre, Mars. EGU General Assembly 2011, Geophysical Research Abstracts, Vol. 13, EGU2011-13166.
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- Platz, T.<sup>P</sup>**, Michael, G.G., Jodlowski, P., and Neukum, G. (2010). Construction of an Eruption Record for the Elysium Volcanic Centre, Mars: Preliminary Results. EGU General Assembly 2010, Geophysical Research Abstracts, Vol. 12, EGU2010-11285.
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- Platz, T.** (2013). Advanced planetary surface analysis based on crater statistics. NASA Ames, San Francisco (USA), 16 July 2013.
- Platz, T.** (2012). Martian topography and geology through orbital observations. Europlanet Towards Mars! workshop, Tallinn (Estonia), 29-30 August 2012 (*invited*).
- Platz, T.** (2012). Volcanism on Mars and other worlds. Heidelberg Joint Astronomical Colloquium, Heidelberg, 22 May 2012 (*invited*).
- Platz, T.** (2012). Ages and volumes of volcanic provinces on Mars. Workshop on 'Planetary Volcanism and Mantle Dynamics', Observatoire Midi-Pyrénées, Toulouse (France), 29-30 March 2012 (*invited*).
- Platz, T.** et al. (2012). Towards unlocking the volcanic history of Mars. 22 February 2012, 4th HGF Alliance Week, DLR Berlin (Institute of Planetary Research).

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