

## Wheeler EBSD publications as of June 2021 (latest first)

Web of Science search as follows captures most of them: in Advanced Search box try  
AU =(wheeler) AND TS= (EBSD OR "electron backscatter" OR TKD) AND AD=(liverpool)

- Fan, S., J. Wheeler, D. J. Prior, M. Negrini, A. J. Cross, T. F. Hager, D. L. Goldsby, and D. Wallis (2022), Using misorientation and weighted Burgers vector statistics to understand intragranular boundary development and grain boundary formation at high temperatures, *Journal of Geophysical Research - Solid Earth*, 127(8), 26 pages, doi:10.1029/2022JB024497.
- Gardner, J., Wheeler, J. & Mariani, E. 2021. Interactions between deformation and dissolution-precipitation reactions in feldspar at greenschist facies. *Lithos* 396-397.
- Wieser, P., Edmonds, M., MacLennan, J. & Wheeler, J. 2020. The Record of Magma Storage under Kīlauea Volcano preserved in Distorted Olivine Crystals. *Nature Communications* doi: 10.1038/s41467-019-13635-y
- Tielke, J. A., Mecklenburgh, J., Mariani, E. & Wheeler, J. 2019. The influence of water on the strength of olivine dislocation slip systems. *Journal Of Geophysical Research: Solid Earth* 124, 6542-6559. doi: 10.1029/2019JB017436
- Timms, N. E., Pearce, M. A., Erickson, T. M., Cavosie, A. J., Rae, A., Wheeler, J., Wittman, A., Ferriere, F., Poelchau, M. H., Tomioka, N., Collins, G. S., Gulick, S. P. S., Rasmussen, C., Morgan, J. V. & Scientists, I.-I. E. 2019. New shock microstructures in titanite (CaTiSiO<sub>5</sub>) from the peak ring of the Chicxulub impact structure, Mexico. *Contributions To Mineralogy And Petrology*.
- Kovaleva, E., Klotzli, U., Wheeler, J. & Habler, G. 2018. Mechanisms of strain accommodation in plastically-deformed zircon under simple shear deformation conditions during amphibolite-facies metamorphism. *Journal Of Structural Geology* **107**, 12-24.
- Kendrick, J. E., Lavalley, Y., Mariani, E., Dingwell, D. B., Wheeler, J. & Varley, N. R. 2017. Crystal plasticity as a strain marker of the viscous-brittle transition in magmas. *Nature Communications* **8**(1), Art. No. 1926.
- Chauve, T., Montagnat, M., Piazzolo, S., Journaux, B., Wheeler, J., Barou, F., Mainprice, D. & Tommasi, A. 2017. Non-basal dislocations should be accounted for in simulating ice mass flow. *Earth And Planetary Science Letters* **473**, 247-255.
- Piazzolo, S., Montagnat, M., Grennerat, F., Moulinec, H. & Wheeler, J. 2015. Effect of local stress heterogeneities on dislocation fields: Examples from transient creep in polycrystalline ice. *Acta Materialia* **90**, 303-309.
- Kovaleva, E., Klotzli, U., Habler, G. & Wheeler, J. 2015. Planar microstructures in zircon from paleoseismic zones. *American Mineralogist*.
- Trimby, P. W., Cao, Y., Chen, Z., Han, S., Hemker, K. J., Lian, J., Liao, X., Rottmann, P., Samudrala, S., Sun, J., Wang, J. T., Wheeler, J. & Cairney, J. M. 2014. Characterizing deformed ultrafine-grained and nanocrystalline materials using transmission Kikuchi diffraction in a scanning electron microscope. *Acta Materialia* **62**, 69-80.
- MacDonald, J. M., Wheeler, J., Harley, S. L., Mariani, E., Goodenough, K. M., Crowley, Q. G. & Tatham, D. 2013. Lattice distortion in a zircon population and its effects on trace element mobility and U–Th–Pb isotope systematics: examples from the Lewisian Gneiss Complex, northwest Scotland. *Contributions To Mineralogy And Petrology* **166**, 21-41.
- Mcnamara, D., Pearce, M. A., Wheeler, J. & Prior, D. J. 2012. Fabrics produced mimetically during static metamorphism in retrogressed eclogites from the Zermatt-Saas zone, Western Italian Alps. *Journal Of Structural Geology* **44**, 167-178.
- Halfpenny, A., Prior, D. J. & Wheeler, J. 2012. Electron backscatter diffraction analysis to determine the mechanisms that operated during dynamic recrystallisation of quartz-rich rocks. *Journal Of Structural Geology* **36**, 2-15.
- Wheeler, J., Cross, A., Drury, M., Hough, R. M., Mariani, E., Piazzolo, S. & Prior, D. J. 2011. Time-lapse misorientation maps for the analysis of electron backscatter diffraction data from evolving microstructures *Scripta Materialia* **65**, 600-603.
- Hildyard, R. C., Llana-Funez, S., Wheeler, J., Faulkner, D. R. & Prior, D. J. 2011. Electron Backscatter Diffraction (EBSD) Analysis of Bassanite Transformation Textures and Crystal

- Structure Produced from Experimentally Deformed and Dehydrated Gypsum *Journal Of Petrology* **52**(5), 839-856.
- Pearce, M. A., Wheeler, J. & Prior, D. J. 2011. Relative strength of mafic and felsic rocks during amphibolite facies metamorphism and deformation. *Journal Of Structural Geology* **33**(4), 662-675.
- Bland, P. A., Howard, L. E., Prior, D. J., Wheeler, J., Hough, R. M. & Dyl, K. A. 2011. Earliest rock fabric formed in the Solar System preserved in a chondrule rim. *Nature Geoscience* **4**, 244-247.
- Prior, D. J., Mariani, E. & Wheeler, J. 2009. EBSD in the Earth Sciences: applications, common practice and challenges. In: *Electron Backscatter Diffraction in Materials Science* (edited by Schwartz, A. J., Kumar, M., Adams, B. L. & Field, D. P.). Springer, 345-357.
- Mariani, E., Mecklenburgh, J., Wheeler, J., Prior, D. J. & Heidelbach, F. 2009. Microstructure evolution and recrystallization during creep of MgO single crystals. *Acta Materialia* **57**(6), 1886-1898.
- Wheeler, J., Mariani, E., Piazzolo, S., Prior, D. J., Trimby, P. & Drury, M. R. 2009. The Weighted Burgers Vector: a new quantity for constraining dislocation densities and types using Electron Backscatter Diffraction on 2D sections through crystalline materials. *Journal of Microscopy* **233**(3), 482-494.
- Mariani, E., Prior, D. J., McNamara, D., Pearce, M. A., Seaton, N., Seward, G., Tatham, D. & Wheeler, J. 2008. Electron backscatter diffraction (EBSD) in the SEM: applications to microstructures in minerals and rocks and recent technological advancements. In: *Instrumental Techniques Applied to Mineralogy and Geochemistry* (edited by Subias, I. & Bauluz, B.). *Seminarios de la Sociedad Española de Mineralogía* **5**, 7-19.
- Shigematsu, N., Prior, D. J. & Wheeler, J. 2006. First combined electron backscatter diffraction and transmission electron microscopy study of grain boundary structure of deformed quartzite *Journal of Microscopy* **224**, 306-321.
- Halfpenny, A., Prior, D. J. & Wheeler, J. 2006. Analysis of dynamic recrystallization and nucleation in a quartzite mylonite. *Tectonophysics* **427**, 3-14.
- Seward, G. G. E., Celotto, S., Prior, D. J., Wheeler, J. & Pond, R. C. 2004. In-situ SEM-EBSD observations of the HCP to BCC phase transformation in pure titanium. *Acta Materialia* **52**(4), 821-832.
- Wheeler, J., Jiang, Z., Prior, D. J., Tullis, J., Drury, M. & Trimby, P. J. 2003. From geometry to dynamics of microstructure: using boundary lengths to quantify boundary misorientations and anisotropy. *Tectonophysics* **376**, 19-35.
- Seward, G. G. E., Prior, D. J., Wheeler, J., Celotto, S., Halliday, D. J. M., Paden, R. S. & Tye, M. R. 2002. High-temperature electron backscatter diffraction and scanning electron microscopy imaging techniques: in-situ investigations of dynamic processes. *Scanning* **24**(5), 232-240.
- Prior, D. J., Wheeler, J., Peruzzo, L., Spiess, R. & Storey, C. 2002. Some garnet microstructures: an illustration of the potential of orientation maps and misorientation analysis in microstructural studies. *Journal of Structural Geology* **24**, 999-1011.
- Lapworth, T., Wheeler, J. & Prior, D. J. 2002. The deformation of plagioclase investigated using electron backscatter diffraction crystallographic preferred orientation data. *Journal of Structural Geology* **24**, 387-399.
- Wheeler, J., Prior, D. J., Jiang, Z., Spiess, R. & Trimby, P. J. 2001. The petrological significance of misorientations between grains. *Contributions to Mineralogy and Petrology* **141**, 109-124.
- Spiess, R., Peruzzo, L., Prior, D. J. & Wheeler, J. 2001. Development of garnet porphyroblasts by multiple nucleation, coalescence and boundary misorientation driven rotations. *Journal of Metamorphic Geology* **19**, 269-290.
- Jiang, Z., Prior, D. J. & Wheeler, J. 2000. Albite crystallographic preferred orientation and grain misorientation distribution in a low-grade mylonite: implications for granular flow. *Journal of Structural Geology* **22**, 1663-1674.
- Prior, D. J., Wheeler, J., Brenker, F. E., Harte, B. & Matthews, M. 2000. Crystal plasticity of natural garnet: new microstructural evidence. *Geology* **28**, 1003-1006.
- Prior, D. J., Boyle, A. P., Brenker, F., Cheadle, M. J., Day, A., Lopez, G., Peruzzo, L., Potts, G. J., Reddy, S. M., Spiess, R., Timms, N. O., Trimby, P. W., Wheeler, J. & Zetterström, L. 1999.

- The application of electron backscatter diffraction and orientation contrast imaging in the SEM to textural problems in rocks. *American Mineralogist* **84**, 1741-1759.
- Prior, D. J. & Wheeler, J. 1999. Feldspar fabrics in a greenschist facies albite-rich mylonite from electron backscatter diffraction. *Tectonophysics* **303**, 29-49.
- Trimby, P. W., Prior, D. J. & Wheeler, J. 1998. Grain boundary hierarchy development in a quartz mylonite. *Journal of Structural Geology* **20**, 917-935.