

+

#0204

+

**Impact cratering experiments: A MEMIN progress report**

M. H. Poelchau\*, T. Kenkmann, A. Deutsch, K. Thoma, T. Hoerth, F. Schäfer. \*Institut für Geowissenschaften, Universität Freiburg, D-79104 Freiburg, Germany. [michael.poelchau@geologie.uni-freiburg.de](mailto:michael.poelchau@geologie.uni-freiburg.de).

The MEMIN research unit (Multidisciplinary Experimental and Modeling Impact research Network) is a group of research projects focused on analyzing experimental impact craters and experimental cratering processes in geological materials. MEMIN is currently interested in understanding in more detail how porosity and pore space saturation influence the cratering process.

The research unit has already successfully performed 18 impact experiments into sandstone where 2.5 to 12 mm diameter projectiles were accelerated to velocities of 2.5-7.8 km/s. The projectiles impacted into blocks of either dry sandstone or sandstone saturated with water to 50% or 90%. Ejecta dynamics were observed in-situ with high-speed cameras and evaluated with specially designed particle catchers. Target deformation was documented in-situ with ultrasound sensors. Subsurface damaging was analyzed in detail post impact and was compared to planar shock recovery experiments. These results give constraints for numerical models, which are used to deepen our understanding of the cratering process.

+

+

Cite abstract as:

Poelchau, M.H., Kenkmann, T., Deutsch, A., Thoma, K., et al. (2012) Impact cratering experiments: A MEMIN progress report. Paneth Kolloquium, Nördlingen (Germany), abstract URL: <http://www.paneth.eu/PanethKolloquium/2012/0204.pdf> (abstract #0204).