

+
#0007

+

Shock-darkening in ordinary chondrites: shock wave pressure effects in heating and melting metal and iron sulfide mixtures.

Moreau*, J., Kohout, T., Wünnemann, K., *University of Helsinki, P.O. Box 64 FI-00014, Finland -juulia.moreau@helsinki.fi

Using iSALE [1] we modeled shock heating / melting of metal and iron sulfide mixtures. We observed shock wave effects such as in Fig. 1 with pressure concentrations due to the geometry of the grains and impedance contrasts between materials.

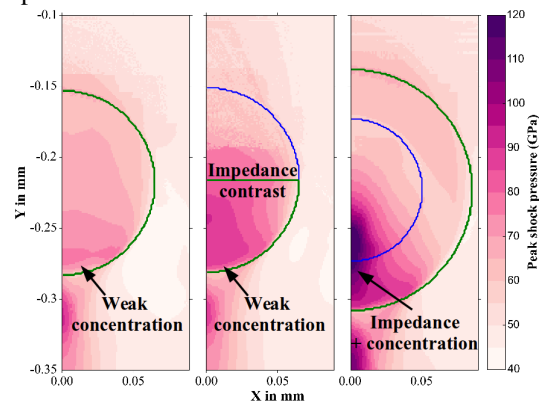


Fig. 1. Recorded peak shock pressures in mixtures of iron (green) and troilite (blue) in olivine matrix, within three types of models. Nominal pressure was 45 GPa. We used a cylindrical symmetry.

[1] Wünnemann K. et al. (2006) Icarus 180, 514-527.

+

+

Cite abstract as:

Moreau, J., Kohout, T., Wünnemann, K. (2017) Shock-darkening in ordinary chondrites: shock wave pressure effects in heating and melting metal and iron sulfide mixtures.. Paneth Kolloquium, Nördlingen (Germany), abstract URL: <http://www.paneth.eu/PanethKolloquium/2017/0007.pdf> (abstract #0007).