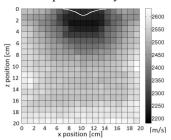
#0139

Non-destructive tesing of damage underneath MEMIN impact craters

Moser*, D., Grosse, C.U., *Technische Universität München, Baumbachstraße 7, 81245 München, moser@cbm.bv.tum.de

The evaluation of the damage zone underneath crater structes is of high interest. To avoid additional damage non-destructive testing (NDT) methods are preferred. Acoustic emission analysis is used to localize the impact point and microcracks underneath experimentally created craters in sandstone.



Ultrasound tomography (US-T) visualize the expansion of the damage zone inside the target. Modal analysis was applied to relate the damage to the elastic moduli.

The figure (top) show a typical cross section of US-T results (white line: real crater structure). The zone underneath the crater exhibit a low p-wave velocity with a roughly hemispherical expansion. The results of the NDT measurements were compared with the microscopic analysis and numerical modelling to give a better insight into the formation of terrestrial crater structures.

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