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# 陨石撞击作用的微观动力学特征

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摘要 山东苍山地区发现一大型陨石坑, 通过大量的勘察工作, 目前已找到一些重要的证据。其中的一些证据来自实验室的镜下鉴定和岩样的物质成分化学分析等手段, 显示了陨石撞击作用下的动力学微观特征。通过仪器中子活化分析和放射化学中子活化分析, 得出陨石坑内岩石中镍(Ni)、铱(Ir)、钴(Co)和钪(Sc)等元素含量随深度的变化曲线, 表明钴、镍和铱成分含量在不同深度出现明显异常。镜下见玻屑构造、灰岩中鲕粒切断特征和聚片双晶消光等动力学构造特征和动力变质现象表明, 这一地质区域曾遭受过来自陨星体(残骸)的巨大外力撞击。这些微观特征都可作为苍山星体(陨石)撞击作用事件的有力证据。

关键词 [岩石力学](#); [撞击作用](#); [陨石坑](#); [镜下鉴定](#); [化学分析](#); [微观特征](#)

分类号

## MICROCOSMIC CHARACTER FOR METEORITE IMPACT INCIDENT IN CANGSHAN REGION

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### Abstract

One great meteorite crater was found in Cangshan region, Shandong Province, and main impact evidences are obtained from macroscopical geologic features, local region characters and so on. The crater's shape is approximately oblong whose remaining part has such radius as short axes and long axes 1.3 km, 2.5 km, respectively. After an extensive investigation, some important microcosmic evidences have been discovered. These evidences are achieved from lens-belowed identifying and chemical analysis of rock samples in laboratory. Using neutron activation analysis of apparatus and neutron activation analysis of radiation chemistry, some curves were charted that show how the contents of the elements Ni, Ir, Co, Sc and etc., in the rock of the crater change with depth, and some dynamical structure characters and dynamically-metamorphosed phenomena are found. They include glass detritus structure, oolite-severed earmark in ash-stone, and assembled chipping macle extinction and the like. These evidences can forcedly explain the impact incident in Cangshan district.

**Key words** [rock mechanics](#); [impact effect](#); [meteorite crater](#); [lens-belowed identifying](#); [chemical analysis](#); [microcosmic character](#)

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