Underground conical shock waves patterns in complex cratering

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The aim of this work is to apply the recently derived patterns of conical shock wave theory to the distribution of the matter flow, energy flow and momentum between high-energy impactors and the surfaces of atmosphere-free planets and planets with a thin atmosphere. Nowadays, it has not yet been possible to record experimentally what the geometry of the internal flow channels is during the distribution of energy, momentum and matter taking place during the ongoing complex cratering process. In addition, the low dynamic from satellite images do not record what is going on underground. However, it is here where Conical Shock Wave Pattern (CSWP) developed from the conical flow theory shed light on the understanding of this dynamic phenomenon with faster dynamic or much shorter duration transition. In consequence, the authors apply recently derived Conical Shock Wave Patterns CSWP to analyze and model the complex distribution of the underground cratering flow.