# Field explosion experiment: change of overpressure, crater size and explosion column shape against explosion energy and depth

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To reveal the dependence of overpressure, crater size and shape of explosion column on energy and depth of volcanic explosion, we made field explosion experiments. The brief conclusions are:

1. Energy partition for blast wave decreases exponentially with increasing scaled depth of explosion point. It is independent of explosion speed and of whether the conduit is open or not.
2. Scaled crater diameter increases linearly, becomes maximum, and then decreases linearly against scaled depth. It is independent of explosion speed and of whether the conduit is open or not.
3. Shape of explosion column is mainly determined by scaled depth. It is also dependent on explosion speed, but independent of whether the conduit is open or not.