One-dimensional crater chronology: A method of estimating the termination age of faulting

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The timing of the tectonic deformation will be a clue to distinguish the origins of geological structures among global cooling (Solomon and Chaiken, 1976), orbital evolution of the Earth-Moon system (Melosh, 1980) and subsidence by the loads of mare basalts (e.g., Solomon and Head, 1980). There are a number of deformed and undeformed craters on a fault on the lunar surface. Undeformed craters mean that they were formed after the fault ceased its tectonic activity. In order to estimate the termination age of faulting, we propose a new method named one-dimensional crater chronology. The method converts the linear density of the undeformed craters on a fault into the termination age. By means of numerical experiments we estimate the relationship between one-dimensional crater size-frequency distribution and the termination age.

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