

Venus: A perspective from impact craters

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Impact craters on Venus are often associated with so-called run-out flows, which are unique to Venus. Careful morphological observation of these flows, which often look similar to lava flows, indicates that they are created by large-volume suspension flows consisting of both gas and condensed phases. Both hypervelocity impact experiments and hydrocode calculations strongly suggest that such suspension flows can be created by projectile-derived impact vapor clouds. If this is true, crater run-out flows contain a large amount of projectile material. If we can measure the chemical composition of run-out flows on Venus in a future mission, we will be able to retrieve the record of impactors in the Inner Solar System over the last billion years.