

R009-29

A 会場 : 11/25 PM1 (13:45-15:45)

13:45~14:00:00

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Martian water loss to space driven by a rocket dust storm

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Mars almost certainly possessed substantial water in the past. During southern summer, warm and dusty conditions can loft water vapor directly to high altitudes without condensation, promoting escape. In this study, we identify an additional, off-season pathway: during northern summer, a strong local dust storm drove significant vertical transport, yielding widespread increases in ~50-km water vapor within a few days across northern high latitudes, followed by a rise in exobase hydrogen. These observations show that water loss can occur whenever intense local dust activity is present, not only under canonical southern-summer conditions, implying that cumulative loss may be larger than previously thought.