

## ELEMENTAL FRACTIONATION DURING RAPID ACCRETION OF THE MOON TRIGGERED BY A GIANT IMPACT

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Recent N-body simulation of lunar accretion from a proto-lunar disk formed by a giant impact suggests that the accretion time of the Moon is as short as one month. Vaporization and escape of lunar forming material is likely during accretion. We computed detailed models of the structure of the silicate atmosphere and its loss rate by calculating the chemical species at equilibrium. Volatile elements such as Na and K are retained in the Moon only at early in accretion. At later times, K and Na are lost, and a fraction of the Mg, Si and Fe are lost. However, refractory elements such as Ca and Al are retained and so achieve a mild degree of superabundance.