Sublimation Values of Ice Under Lunar Conditions
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Abstract

This study and proposed experiment were designed to simulate the conditions of the moon and predict the effect those conditions would have on the sublimation of ice. Using the Clapeyron-Clausius equation, it was predicted that ice on the moon would sublimate at 120.9 K, and it would require 169.1 kJ of energy to sublimate 1 kg of ice. To test this hypothesis, an apparatus creating a low-pressure and temperature environment was used. Data could then be collected at different sublimation points. This data would be extrapolated down to the conditions of the moon and compared to the predicted values. Through this process, it is possible to understand the effect that temperature and pressure have on the sublimation of ice under lunar conditions. This research can help give insight into the economics of extraction of lunar ice via sublimation.