

## Feasibility study of Mars' wind observation from a satellite orbit using a sub millimeter wave sounder

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In order to know the atmosphere circulation of Mars, there is a need to know the distribution of wind speed on Mars. By observing Doppler shifts of molecular emission spectra of the Martian atmosphere, vertical profiles of wind speed in the Martian middle/upper atmosphere can be measured. In this study, we present a feasibility study of Martian wind measurement using a submillimeter sounder from an orbiting platform. The spatial and time resolutions achievable by submillimeter wave observations from Martian orbits are investigated.

Keywords: submillimeter wave, doppler shift, mars, wind