respectively using a sample obtained around the terminator (i.e. at high solar zenith angle or in the night side of the planet) that cannot be analyzed using plane-parallel codes.

Terminator observations are typically quite sensitive to the aerosols properties in the bottom heights above the atmosphere. On Mars, a scale height varying between 6 ± 2 km and 11.5 ± 1.0 km as a function of the atmospheric temperature is retrieved. The mean particle size of aerosols is inferred to be either constant or to decrease by 0.01–0.02 μm km^{-1}. On Titan, an observation obtained on 07/09/2006 is best reproduced using a scale height of 80 ± 10 km. At that time the optical depth between 1 μm and 2 μm can be represented by $\tau(\lambda) = 2.3 \times \lambda^{-2.2}$.

In addition to its sensitivity to the vertical properties of aerosols, our model was able to recover surface properties at times and places for which the Sun is low or even below the horizon. This capability is of particular interest for the studies of regions that can only be observed in such non-favorable photometric conditions, such as the highest latitudes of Mars around spring and autumn equinoxes. Considering that the OMEGA and VIMS instruments have acquired numerous observations around the terminator, our model will be able to extend the analysis of the vertical structure of aerosols at different times and locations and to routinely retrieve surface properties up to the terminator and beyond.

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