Sublimation of ice particles of rocket exhausts and transfer of rocket disturbances in the upper atmosphere

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The process of sublimation of ice particles from a rocket exhaust in the upper atmosphere is examined. Heating by solar radiation and losses of energy by means thermal radiation and sublimation are taken into account in the thermal balance of the ice particles. An estimation of water vapor concentration around the rocket trajectory is made. The process of sublimation of the rocket exhaust ice particles may be important for the interpretation of rocket exhaust optical phenomena in the upper atmosphere and for the coupling of disturbances at a large distance from rocket.