

Observation of ozone and reactive species with reusable vehicle

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The reusable vehicle can lift up 100 kg of instruments and repeat measurements twice a day. In the lower and middle stratosphere, the repetitive measurements have some advantage to observe reactive species. There are few vehicles to observe trace species in the mesosphere. The reusable vehicle may be a strong tool to measure the trace species in the mesosphere and upper stratosphere. It is important to investigate chemical processes that many species are observed simultaneously. 100 kg of payload can make it possible. The reusable vehicle is also useful to investigate the atmospheric gravity waves. The parameters of the atmospheric gravity wave can be derived by measuring ozone concentration, temperature, pressure, and wind speed from surface to the thermosphere. Comparing with other measurements such as air glow imaging, we can get much more information for the atmospheric gravity wave.