

A statistical study of exospheric temperature derived by the MU radar

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We have estimated the exospheric temperature from MU radar measurements during 13 years. Exospheric temperature can be derived from ionospheric measurements on the assumption that the thermal loss from the electrons to the ions is balanced by the thermal loss from the ions to the neutrals.

In this study we have statistically analyzed the exospheric temperatures.

The exospheric temperatures derived from MU radar measurements have the similar diurnal pattern as does the MSIS model temperatures at high solar activity. At low solar activity, however, the MU temperatures increase rapidly in the morning and the difference from MU temperatures and MSIS temperatures become large.