

SOLAR RADIOFLUX AND UPPER-ATMOSPHERE TEMPERATURE *

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Abstract: A general analysis of solar radiofluxes between 1 000 Mc/s and 10 000 Mc/s has been made for an entire solar cycle. It is shown that a correlation between a solar radioflux index and the temperature of the thermopause can be found in the range of 8–10 cm if its basic component is associated with a 27-day mean value. A linear correlation is found between the 27-day mean value of the 8 cm radioflux and the thermopause temperature. However, there is a departure from linearity at 10.7 cm for fluxes of less than 150 units. The oscillation during a so-called 27-day period has a value which is about 50 per cent of that of the basic component. It is shown that no corpuscular effect is needed in addition to the normal heating of the thermosphere by ultraviolet radiation.

A table is given to deduce the relationships between radiofluxes at 8 cm and 10 cm and average night-time and day-time temperatures. Finally, the maximum mean and minimum temperatures have been deduced for night-time and day-time conditions between 1952 and 1962.

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no Russian translation has been received*

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