

Time variability of global solar radiation in high-mountain regions

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Abstract: Measurement and registration of the global solar radiation are systematically performed at the meteorological observatories of Geophysical Institute of SAS at Skalnaté Pleso and Stará Lesná. Hourly global solar radiation sums were evaluated to study the time and vertical variability of this element in the high-mountain conditions. Different altitudes as well as orographical conditions in both localities are manifested in the different global solar radiation sums. Obtained results at Skalnaté Pleso represent the high-mountain conditions and the corresponding values at Stará Lesná may characterize the global solar radiation receipt for forest ecosystems in the Slovak territory.

Key words: global solar radiation, time series, mathematical statistics, linear model, statistical characteristics, long-term average

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