

# Seasonal variability of the diffuse radiation at Mlyňany

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**Abstract:** Hourly, monthly, and annual sums of the diffuse radiation at the Meteorological Observatory Mlyňany during the 1993–2005 period were used to study the daily and seasonal variability of the diffuse radiation and to estimate their temporal tendency.

The obtained results confirmed that the diffuse radiation trend at Mlyňany has a decreasing tendency. According to expectation the annual course of the diffuse radiation is characterized by a summer maximum and by winter minimum. The largest part of the diffuse radiation falls to one's share in the growing season (nearly 70% from the total annual sum), in spite of the fact that the vegetation period represents roughly a half of the year.

The share of the diffuse radiation in the global solar radiation was considered for all wavelengths of the solar spectrum. According to our calculations the relative portion of the diffuse radiation in the global solar radiation represents 41.1% at Mlyňany (in annual mean).

**Key words:** diffuse radiation, linear trend, regression analysis, annual and daily course, harmonic analysis, method of least squares

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