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Forecasting the weather
- ensemble techniques
in probabilistic weather prediction

Variability of daily totals of global radiation within extreme years during the solar dimming and brightening periods

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Global radiation is a key parameter in climatology. During the last 60 years the annual totals have changed at the global scale and so also in Potsdam (Germany) from a mean value of about 3800 MJ/m^2 in the middle of the last century to about 3500 MJ/m^2 in the 80ies to again 3800 MJ/m^2 nowadays.
Single years deviate significantly in positive as well as negative direction from the adjacent values during both dimming and brightening periods.
Statistic parameters, especially extreme values and variability, were analysed from daily totals for those years which deviate more than 1 s of the long-term mean in positive and negative direction.
Furthermore, the results were considered in relation to measured daily totals of diffuse and direct solar radiation as well as to other meteorological variables like cloud cover and circulation pattern.