



Analyzing the temporal and spatial variability of daily surface solar radiation

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The spatial and temporal variability of the surface solar radiation is driven by the annual solar cycle and changes in cloud coverage. An improved understanding of this variability increases our understanding of the climate system; in addition this information helps to select locations for solar power plants to ensure the highest stability of the availability of solar energy.

Here we present first results of the analysis of the temporal and spatial variability of the surface solar radiation in Germany on the daily time scale. The analysis is performed using the CM SAF Surface Radiation Climate data record available from 1983 to 2005 with a spatial resolution of 0.03 deg. The results of the temporal analyses include the determination of the streaks of bright and dark days and their correlation with respect to Großwetterlagen.