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The global dimming and brightening in Potsdam (Germany)

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The effect of global dimming and, in more recent times, also the brightening was observed in the most parts of the world.
This characteristic pattern is also visible in the solar radiation data of Potsdam. Since 1937 global, diffuse and direct solar radiation have been measured independently by pyranometers and a pyrheliometer. At clear sky conditions the Linke turbidity factor was calculated from special measurements made with a Linke-Feußner pyrheliometer, too. Furthermore, accompanying meteorological elements like total cloud cover, horizontal visibility and wind direction also available.
Dimming and brightening are investigated by the analysis of the combination of these quantities and meteorological elements.
It will be shown that horizontal visibility, indicating the turbidity in the boundary layer, and the Linke turbidity factor, describing the turbidity in the whole atmosphere are in good agreement. Furthermore, the background turbidity is compared with the influence of the Berlin turbidity during the dimming and brightening period.