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近50年中国东南地区地面太阳辐射变化对气温变化的影响

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Effect of surface solar radiation variations on temperature in South-East China during recent 50 years

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摘要

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摘要 太阳是地球表面的最终能量来源,地面太阳辐射的变化会深刻影响地球的气候变化.本文利用中国东南地区14个气象台站1961~2008年总辐射和气温的同步观测资料,分析了近50年该地区地面太阳辐射的变化对气温变化的可能影响.结果表明,1961~1989年期间,该地区的地面太阳辐射显著减弱,所引起的气温下降超过了其他因素的增温效应,从而使平均气温略微下降;1993~2008年期间,该地区的地面太阳辐射有所增强,所引起的气温上升叠加在其他因素的增温效应之上,对这一时期气温的快速升高起到了一定的加强作用.地面太阳辐射的变化对近50年中国东南地区的气候变化起着不可忽视的作用.

关键词: 中国东南 地面太阳辐射 气温 气候效应

Abstract: Most of Earth's surface energy is from solar, and the change of surface solar radiation will profoundly affect the global climate. In this paper, the synchronous observational data of global radiation and temperature from 14 stations in South-East China was used to analyse the probable influence of surface solar radiation change on temperature change from 1961 to 2008. During 1961~1989, surface solar radiation in South-East China was significantly weakened, resulting in a slight decrease of average temperature. During 1993~2008, surface solar radiation in South-East China was increased, which was superposed on the other warming effects and accelerated the increase of temperature. In a word, the surface solar radiation change plays an essential role in the climate change in South-East China during these 50 years.

Keywords: South-East China Surface solar radiation Temperature Climate effect

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