

Dynamical response of the SH middle atmosphere to energetic particle precipitations in the latest reanalysis data

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Several recent studies (Lu et al., 2008; Seppälä et al., 2009, 2013) indicated that energetic particle precipitation (EPP) could have a significant impact on the Earth's climate. In this study, the past 36 years were divided into high, medium, and low energetic particle forcing (EPF), and solar maximum, medium, and minimum conditions using Ap index and F10.7 radio flux, respectively. Then composite figures of middle atmosphere in the winter southern hemisphere were created from the latest reanalysis data and compared between medium and low EPF during the solar minimum. They showed that there was a statistically significant difference between medium and low EPF.

Key words: energetic particle precipitation, middle atmosphere, reanalysis

References

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