

A new application of reanalysis dataset: investigation on the influence of a solar eclipse on the atmospheric temperature.

*Shih-Sian Yang¹, S.-S. Tang-lunn

1. Institute of Space Science, National Central University, Taiwan

Atmospheric reanalysis datasets offer scientists a good opportunity to examine or re-examine topics which cannot be fully understood in the past years. In the present study, we will demonstrate a new application using high spatio-temporal resolution atmospheric reanalysis dataset. Temperature profiles retrieved from ERA5 are employed to investigate the influence of the 20 May 2012 annular solar eclipse on the tropospheric and stratospheric temperature. The result reveals that there is no significant change in the tropospheric and stratospheric temperature during the eclipse period. This conclusion is different from previous papers, which the latter are based on either spatially or temporally limited datasets.

Keywords: ERA5, atmospheric reanalysis data