Seasonal variation of Thorpe scale and energy dissipation rate derived from radiosonde observations at Syowa Station in the Antarctic

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The energy dissipation rate is a fundamental parameter describing atmospheric turbulence. Clayson and Kantha (2008) and following studies showed that radiosondes with a vertical resolution of several meters can detect at least partially overturning structures. Energy dissipation rates were estimated utilizing these radiosonde data based on Thorpe’ s method (1977) which is commonly used for oceanic turbulence parameters. In the present study, we will showd estimations of energy dissipation rates from radiosonde, and compare it with the estimation from a radar at Syowa Station.

