



Observations of turbulence caused by gravity wave breaking at the tropopause

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Observations of turbulence generation at the tropopause have been conducted above Aberystwyth, Wales. This has involved in situ aircraft sampling and also radar remote sensing. The Egrett aircraft was applied to investigate the dynamics of mixing in the tropopause region during May and June 2000. Case studies are presented here that show turbulence generation by breaking of mountain waves and Kelvin Helmholtz waves. A small-scale wave of length 500 m was found within regions of instability associated with larger-scale gravity waves. The Aberystwyth VHF radar has operated over the past 15 years and observations will be presented that provide exceptional case studies of turbulence generation by mountain waves, inertia gravity waves, and by interactions between these.