



DRIVING OF INERTIA-GRAVITY WAVES BY A POLEWARD BREAKING ROSSBY WAVE - MESOSCALE MODEL SIMULATIONS

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The LEWIZ campaign, conducted at 17.-19.12.1999 in Kühlungsborn (54 °N, 12 °E), was simulated with the 5-th generation mesoscale model MM5. Three domains with a horizontal resolution of 72, 24 and 8 km were nested interactively. The runs revealed sub-synoptic waves with a horizontal wavelength of 450 km and a period of 11 h. These waves were generated mainly by the jet current associated with the breaking Rossby wave. Orography and convection also played a role - they contributed to mesoscale waves characterised by 150 km and 4 h. The polar vortex favoured the vertical propagation of these waves, occasionally leading to an energy of $19 \text{ m}^2 / \text{s}^2$ and an vertical momentum flux of $0.84 \text{ m}^2 / \text{s}^2$ at 26 km height.