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## Detection of internal gravity waves by high-pass filtering

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Terrestrial atmosphere supports propagation of various wave types. An important component of the dynamics especially in the middle atmosphere are the internal gravity waves (GWs) that are incessantly being generated from initial perturbations in a stably stratified atmosphere. Horizontal GW wavelengths range from a few to thousands of kilometres. Together with a wide range of temporal and vertical scales, this complicates their global observations and modeling, requiring high resolution model simulations. Subsequent analyses, nevertheless, contain a significant margin of uncertainty originating in the separation of GWs from the background flow, which is often performed by statistical means. In our work, we explore properties of a Gaussian high-pass filter method, using a deep WRF simulation with the horizontal resolution of 3 km in the region of the Drake Passage. Due to the revealed sensitivity of momentum flux and drag estimates to a filter cutoff parameter, we propose a new method that sets the value of the parameter on the basis of the horizontal spectra of horizontal kinetic energy.