



Drag enhancement in sheared flows

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Theoretical results indicate that shear modifies both the low level gravity wave drag and the vertical profiles of divergence of the momentum flux, which define the interaction between internal waves and the mean flow. Many of those results, however, look at idealized wind profiles, characterized by low Richardson numbers, and so may be thought to be unrepresentative. A recent study, however, indicates that the enhancement of drag by heterogeneous wind profiles, which is due to the curvature of those profiles, may be a very relevant effect in realistic flow conditions as found in the Antarctic. Here we present also some early results on the vertical distribution of the divergence of the momentum flux in idealized flows, which may help to understand the impact of gravity wave drag on those flows.