



## **A Generalized Planetary Boundary Layer E-Epsilon Model**

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A new phenomenological turbulent kinetic energy dissipation equation for the E-Epsilon closure model is proposed. The well known Detering and Eiling (1985) model for the neutrally stratified, sheared, rotating boundary layer is revisited in the light of more recent achievements (Rubinstein and Zhou, 2003) and generalized in order to allow its application also to the unstable, shearless case. On the other hand, in the stable case, the consistency with the Deardorff (1980) mixing length is successfully invoked. The resulting model performs quite well in a wide range of regimes of the horizontally homogeneous boundary layer as well. Moreover, at variance with the results of former studies, it avoids surface variables scaling to be suitable also for applications in complex terrains.