



## **On the influence of conventional and non-local turbulent factors on atmosphere-land interaction processes**

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The aim of the present work is parameterization of the influence of number of conventional (stratification, roughness, baroclinicity, terrain slope) and non-local (at long-lived stable PBL, caused by free-flow stability and capping inversion) factors over main atmosphere-land interaction processes.

It is developed a combined parameterization method based on the joint and coordinated use of the components: bulk-Richardson surface layer number method, resistance and heat transfer laws and corresponding  $A$ ,  $B$ ,  $C$  universal functions.

As input it is used different groups of parameters: external aerologic-synoptic, surface (from standard observations) and Pasquill-Turner stability classes.

On this basis it is realized practically orientated flux calculation techniques, it is determined basic relationships between a series of main BL, PBL, PBL-free atmosphere turbulent and stability parameters for conventional and non-local turbulent PBL regimes.

It is analyzed the influence of the non-local effects on the turbulent BL-PBL characteristics, the problem for juxtaposition of the fluxes at different groups of input parameters, the correspondence and juxtaposition of different stability parameters (in particular the relation between Pasquill-Turner stability classes and the rest), and other.

The method can be used at great number of problems of parameterization of dynamic and diffusion processes in the atmosphere.