## On mathematical modeling of some local meteorological processes above the territory of Georgia

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Investigation of the wind profiles above the mountain territories has important value at least for its practical consideration. In present report are obtained a new formula for calculation wind vertical component with accounting influence of orography. Also for determination wind vertical constituent there is used the "broken line" method for Imereti region-Kutaisi, Tskaltubo Zestafoni area. In the Earth atmosphere there are often observed non-periodical non-ordinary such kind atmosphere phenomenal events those are: powerful wind vortex, strong local micro-orographic winds and different arising air currents in the atmosphere lower boundary layer. In the present article on the bases of the hydrothermodynamic laws above mentioned phenomena is investigated. Namely it was proved that pressure in the wind vortex is arising proportionally with relief altitude and enlarged with augmentation of the angle between wind vortex axes and vertical direction.