Variation in the ground ozone concentration during passage of warm fronts over the Kola peninsula

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During the passage of a warm front the lower border of the inversion, connected with the frontal surface, gradually subsides and is often form the ground inversion layer of significant vertical thickness. The reduction of turbulent vertically exchange, caused by this situation, should, obviously result in decrease of the surface ozone concentration. However, taking into consideration, that in the zone of the active warm front steady precipitations can be observed as a rule. This phenomenon is masked by processes of chemical destruction of ozone in the interaction with condensed (drop-like) aerosol, thus eluding the researchers' attention.
Using synoptical maps for the period of 2001-02, we have identified events, when there passed some diffuse warm fronts, not accompanied by precipitations. The analysis of the surface ozone concentration behavior in such days in Apatity and Lovozero showed, that during hours close to the front passage, ozone concentration decreased or at least did not increase in the day time. It contraries to the usual 24 hours variation.
The given circumstance recuires new qualitative estimations of ozone flow at the expence of its «washing out» by precipitations.

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