## OXYGEN IN THE ATMOSPHERE OF LARGE CITIES AND PEOPLE BREATH PROBLEMS

## A.S. Ginzburg<sup>1</sup>, A.A. Vinogradova<sup>1</sup>, E.I. Fedorova<sup>1</sup>, E.V. Nikitich<sup>2</sup>, A.V. Karpov<sup>1</sup>

<sup>1</sup> Obukhov Institute of Atmospheric Physics, Russian Academy of Sciences, Moscow, Russia <sup>2</sup> State Environmental Institution «Mosecomonitoring», Moscow, Russia

**Abstract.** Oxygen in atmospheric air in cities, as well as in living rooms, offices, and working areas is the factor of great importance for people health. Oxygen concentration is minimal under high air temperature and high absolute humidity (as it was in summer 2010 in the central part of European Russia). People can feel hypoxia under such conditions. There are some additional factors embarrassing human breathing in large cities: higher temperature (so called «heat island»), air pollution by aerosol particles, carbon monoxide, other anthropogenic gases and pitches. These result in increased inhabitant morbidity and mortality under abnormal hot weather and natural fires in suburbs. Summer episodes for Moscow in 2010, as well as for Tomsk and Novosibirsk in 2012 have been analyzed.

*Keywords:* atmosphere, oxygen, abnormal hot weather, fires, human health in large cities, people mortality.