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Study of the content and fluxes of climate-relevant gases for the territory of St. Petersburg

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Solicited talk

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Global climate change is one of the most important scientific, social, and economic problems of our time. To assess the significance of these changes and understand the physical and chemical processes associated with them, atmospheric monitoring of climate-relevant gases and their fluxes into the atmosphere is necessary. The presentation summarizes the main results of long-term stationary Fourier spectrometry observations at St. Petersburg University, aimed at studying temporal changes in the composition of the atmosphere's gas mixture. The results of mobile measurement campaigns EMME (Emission Monitoring Mobile Experiment) 2019-2024 are also presented, which assessed emissions of climate-relevant gases from the territory of the Saint Petersburg agglomeration. A brief overview is provided of research being developed on the Department of Atmospheric Physics at St. Petersburg University, focusing on determining greenhouse gas fluxes using eddy covariance and chamber measurements in both natural and urban ecosystems.

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