Short-lived climate pollutant issues in the mitigation of the global warming

*中島 映至[1]、大原 利眞[2]、増井 利彦[2]、竹村 俊彦[3]、芳村 圭[4]、五藤 大輔[2]、鈴木 健太郎[4]、S-12 サイエンスチーム
*Teruyuki Nakajima[1], Toshimasa Ohara[2], Toshihiko Masui[2], Toshihiko Takemura[3], Kei Yoshimura[4], Daisuke Goto[2], Kentaroh Suzuki[4], S-12 Science Team

1. 宇宙航空研究開発機構　地球観測研究センター、2. 国立環境研究所、3. 九州大学応用力学研究所、4. 東京大学大気海洋研究所
1. EORC, Japan Aerospace Exploration Agency, 2. National Institute for Environmental Studies, 3. RIAM, Kyushu University, 4. Atmosphere and Ocean Research Institute (AORI), The University of Tokyo

The Paris agreement, adopted in the UNFCCC COP21 round, set the 2 degrees target and 1.5 degrees effort of global warming after the industrial revolution. These targets mean that the society has to pay significant efforts to reduce the long-lived greenhouse gases (LLGHGs) emission. Another problem is that the notable reduction of the surface temperature does not appear in the next two decades even with a substantial reduction of LLGHGs, because of the long lifetime of the LLGHGs. As one of other mitigation methods, a concept of the short-lived climate pollutants (SLCP), which include black carbon (BC) aerosols, tropospheric ozone, and methane, has been introduced by UNEP. According to the UNEP report for black carbon and tropospheric ozone, it will be possible to reduce the global surface temperature of about 0.5 degrees in a short period after substantial removal of SLCP emission. There are several mitigation initiatives along this idea, such as the UNEP Climate and Clean Air Coalition (CCAC), has been launched.
It is, however, there are several recent studies that the SLCP impact on the global surface temperature is not large, so that a careful analysis of the SLCP impact has to be made. We like to discuss this issue in this talk based on several past studies and results of the ERTDF S-12 project. Important subjects of the analysis are links between 1) air quality and SLCP emissions, 2) emission and mitigation technologies, and 3) SLCP concentration and the earth's climate change.

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