

## Fundamental characteristics of black carbon and iron oxide aerosols in the troposphere revealed from the aircraft measurements

\*Nobuhiro Moteki<sup>1</sup>, Makoto Koike<sup>1</sup>, Sho Ohata<sup>2</sup>, Yutaka Kondo<sup>3</sup>, Nobuyuki Takegawa<sup>5</sup>, Kouji Adachi<sup>4</sup>, Naga Oshima<sup>4</sup>, Hitoshi Matsui<sup>2</sup>, Kazuyuki Kita<sup>6</sup>, Tatsuhiro Mori<sup>7</sup>, Atsushi Yoshida<sup>1</sup>

1. The University of Tokyo, 2. Nagoya University, 3. National Institute for Polar Research, 4. Meteorological Research Institute, 5. Tokyo Metropolitan University, 6. Ibaraki University, 7. Tokyo University of Science

In this presentation, we will talk about the basic behaviors, microphysical and associated optical properties, and transport-and-removal processes of the tropospheric black carbon and iron oxide aerosol which have been elucidated mostly from aircraft measurements. We will clarify the scientific significance and contribution of these findings in the context of the related international research activities on atmospheric aerosols and climate change. In addition, we will suggest some related open problems which need to be investigated through in-situ aircraft measurements in future research.

Keywords: aerosol, aircraft measurement, black carbon, iron oxide, atmospheric chemical composition