

## 4.106 Iodine monoxide variations observed by shipborne MAX-DOAS over the tropical Pacific Ocean.

Early Career Scientist

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Abstract:

Iodine monoxide (IO) retrievals were performed by shipborne Multi-Axis Differential Optical Absorption Spectroscopy (MAX-DOAS) on the Japanese research vessel *Mirai* during its expeditions from 2014 to 2017, to clarify the global IO variations over the world's remote oceans. During the expedition of Nov-Dec 2014, clear latitudinal variations in IO differential slant column densities (DSCDs) for an elevation angle of 3° were observed with maxima in the tropical Pacific ( $\sim 2 \times 10^{13}$  molecules/cm<sup>2</sup>). We investigated ozone variations observed on the vessel and found that there were clear negative correlations with IO on a day-to-day time scale over the tropical Pacific. This result suggests that IO plays an important role in tropospheric chemistry over the tropical remote ocean.