

Welcome to the Kobe University Tagawa Laboratory web page.

Our laboratory has been studying the effects of the space environment on materials (especially atomic oxygen, AO) for over 30 years. We are one of the world's leading research groups, and the only research group in Japan that operates a laser detonation type AO beam source. In our laboratory, we can irradiate hyperthermal AO and other molecules to material surfaces with collision energies equivalent to the orbital velocity of a spacecraft, and has been focused to study surface reactions at surface of spacecraft materials.

PI of the lab., Masahito Tagawa, has served as a program committee member for the ISMSE/ICPMSE international conferences, the largest global community in this field, for over 20 years, and is recognized as one of the leading researchers in this field.

In recent years, we have been developing air-breathing ion engines for VLEO application, evaluating material risks in the VLEO environment, evaluating satellite drag in VLEO, and even conducting sounding rocket flight experiments. These topics are all focused to the operation of satellites at VLEO, which is even lower than normal LEO altitudes (200-300km).

In addition, in light of the increasing global demand for AO irradiation tests as the space business expands, we have begun low-cost contract of AO exposure testing in 2023. To date, we have carried out over 40 AO exposure test requests from space agencies, Universities, and companies in Japan and abroad. Please contact us by email for any inquiries regarding this matter.

Only limited information is translated on the English version of the web page, so please turn the automatic translation on of your browser to the Japanese version of the web page for details. Sorry for your inconvenience at this point!

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