## 2015年度 宇宙環境研究グループ国際会議講演

"Acceleration of Solid Particle Using GXII Laser System," Yukihito Kitazawa, Yoichiro Hironaka, Jyunki Ohira, Takayoshi Sano ,Keisuke Shigemori, Masahito Tagawa, Haruhisa Matsumoto, 1st Workshop on Laser solutions for Orbital Space Debris, April 27-28, 2015, Paris, France

"Effect of high-energy inert gas collisions on the atomic oxygen-induced polymer erosion", Masahito Tagawa, Kenta Ide, Yuki Yamasaki, Daiki Watanabe, Kumiko Yokota, 13th International Symposium on Materials in the Space Environment, June 22-26, 2015, Pau, France.

"Laser-detonation beam facilities for sub-LEO material erosion studies", Kumiko Yokota, Kenta Ide, Yuki Yamasaki, Akimine Hatsuda, Kaoru Morimoto, Masahito Tagawa, 13th International Symposium on Materials in the Space Environment, June 22-26, 2015, Pau, France.

"Collision-induced oxidation of Si atoms embedded in carbon-based material", Masahito Tagawa, Daiki Watanabe, Yuichi Furuyama, Kazuhiro Kanda, Akitaka Yoshigoe, Yuden Teraoka, Koji Matsumoto, Kumiko Yokota, 13th International Symposium on Materials in the Space Environment, June 22-26, 2015, Pau, France.

"Three dimensional particle-in-cell simulation for the development of air breathing ion engine", Shinichiro Kawaguchi, Hideyuki Usui, Yohei Miyake, Tsubasa Yasukochi, Masato Fukuda, Kumiko Yokota, Masahito Tagawa, Joint Conference, 30th International Symposium on Space Technology and Science and 34<sup>th</sup> International Electric Propulsion Conference, July 4-10, 2015, Kobe, Japan.

"Hyperthermal carbon dioxide beam formation for gas-surface interaction studies in upper Martian atmosphere", Akimine Hatsuda, Kumiko Yokota, Masahito Tagawa, Joint Conference, 30th International Symposium on Space Technology and Science and 34<sup>th</sup> International Electric Propulsion Conference, July 4-10, 2015, Kobe, Japan.

"Synergistic effect of atomic oxygen and argon on polyimide erosion in sub-low Earth orbit", Yuki Yamasaki, Kenta Ide, Kumiko Yokota, Masahito Tagawa, Joint Conference, 30th International Symposium on Space Technology and Science and 34<sup>th</sup> International Electric Propulsion Conference, July 4-10, 2015, Kobe, Japan.

"Numerical simulation of ECR plasma in air breathing ion engine (ABIE): Neutral gas density distribution and ECR plasma formation", Tsubasa Yasukochi, Hideyuki Usui, Yohei Miyake, Shinichiro Kawaguchi, Masato Fukuda, Kumiko Yokota, Masahito Tagawa, Joint Conference, 30th International Symposium on Space Technology and Science and 34<sup>th</sup> International Electric Propulsion Conference, July 4-10, 2015, Kobe, Japan.

"Hyperthermal atomic/molecular beams formed by laser-detonation phenomenon with variable gas mixtures", Kaoru Morimoto, Junki Ohira, Kumiko Yokota, Masahito Tagawa, Joint Conference, 30th International Symposium on Space Technology and Science and 34<sup>th</sup> International Electric Propulsion Conference, July 4-10, 2015, Kobe, Japan.

"Property of hyperthermal CO<sub>2</sub> beam formed by a laser-detonation facility for space environmental effect studies in upper Martian atmosphere," Masahito Tagawa, Akimine Hatsuda, Kumiko Yokota, 13<sup>th</sup> International Conference on Laser Ablation, August 31 - September 4, 2015, Cairns, Australia.

"Laser-detonation facility for acceleration of gaseous materials: Etching and deposition of solid materials," Kumiko Yokota, Kenta Ide, Junki Ohira, Yuki Yamazaki, Kaoru Morimoto, Hidetoshi Asada, Masahito Tagawa, 13<sup>th</sup> International Conference on Laser Ablation, August 31 - September 4, 2015, Cairns, Australia.

"Oxidation of titanium atoms in DLC films by hyperthermal atomic oxygen beam relevance to space environmental effect in LEO" Masahito Tagawa, Akimine Hatsuda, Daiki Watanabe, Kumiko Yokota, 16<sup>th</sup> European Conference on Application of Surface and Interface Analysis, September 28 - October 1,

2015, Granada, Spain.

"Energy dependence on oxidation of Si-containing polyimide by hyperthermal atomic oxygen collisions," Kumiko Yokota, Daiki Watanabe, Akimine Hatsuda, Masahito Tagawa, 16<sup>th</sup> European Conference on Application of Surface and Interface Analysis, September 28 - October 1, 2015, Granada, Spain.