

## 主な原著論文（抜粋）

### **High-speed atomic oxygen irradiation to atomically thin graphene for astronomical applications**

Kazuto Kashiwakura, Ikuuyuki Mitsuishia, Midori Hirota, Yoshimi Niwaa, Yuzuru, Tawara, Ryo Kitaura, Haruka Omachi, Masahito Tagawa, Kentaro Nomoto, Kazuyuki Tsuruoka, Kenji Kawahara, Hiroki Ago  
Journal of Astronomical Telescopes, Instruments, and Systems, accepted

### **Microstructural Changes in Carbonized Wood-Lignin, a Potential Space Material, in Response to Atomic Oxygen Irradiation**

Toshimitsu Hata, Sensho Honma, Takeshi Kajimoto, Kyoichi Oshida, Yuki, Tobimatsu, Masahito Tagawa, Hirotsugu Kojima, Subyakto  
Biomass Conversion and Biorefinery, October 16, 2023, published online, doi.org/10.1007/s13399-023-04957-5

### **Formation of nanoscale protrusions on polymer films after atomic oxygen Exposure: Observations with positron annihilation lifetime spectroscopy**

Aki Goto, Koji Michishio, Toshitaka Oka, Masahito Tagawa, Shinichi Yamashita  
Langmuir Vol.39 No.34 (2023) 11954-11963

### **Anisotropic molecular scattering at microstructured surface for rarefied gas compression inside air breathing ion engine**

Kosuke Shoda, Naoki Kano, Yuki Jotaki, Keisuke Ezaki, Kazuki Itatani, Takashi Ozawa, Yusuke Yamashita, Kazutaka Nishiyama, Kumiko Yokota, Masahito Tagawa  
CEAS Space Journal Vol.15, No.3 (2023) pp. 403-411.

### **Formation of nanoscale protrusions on polymer films after atomic oxygen irradiation: Changes in morphologies, masses, and FT-IR spectra**

Aki Goto, Shinichi Yamashita, Masahito Tagawa  
Langmuir Vol.38 No.11 (2022) 3339-3349

### **Laser-detonation hyperthermal beam source applicable to VLEO environmental simulations**

Masahito Tagawa, Ryota Okura, Wataru Ide, Sasuga Horimoto, Keisuke Ezaki, Atsushi Fujita, Kosuke Shoda, Kumiko Yokota,  
CEAS Space Journal Vol.14, No.4 (2022) pp.757-765.

### **Effect of atomic hydrogen exposure on hydrogenated amorphous carbon thin films**

Yuichi Haruyama, Daiki Morimoto, Akira Heya, Koji Sumitomo, Seigo Ito, Kumiko Yokota, Masahito Tagawa,  
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### 原子状酸素照射による高分子材料表面の微細構造形成：メカニズム解明に向けたフルエンス補正

後藤亜希、山下真一、田川雅人  
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### **Effect of simultaneous N<sub>2</sub> collisions on atomic oxygen-induced polyimide erosion in sub-low Earth orbit: comparison of laboratory and SLATS data**

Kumiko Yokota, Masahito Tagawa, Yusuke Fujimoto, Wataru Ide, Yugo Kimoto, Yuta Tsuchiya, Aki Goto, Kazuki Yukumatsu, Eiji Miyazaki, Shunsuke Imamura  
CEAS Space Journal, Vol.13 (2021) 389-397

### **Study of rarefied aerodynamics for super low altitude satellite**

Takashi Ozawa, Shunsuke Imamura, Masahito Tagawa, Kazuhisa Fujita  
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### **Investigation and Experimental Simulation of Performance Deterioration of Microwave Discharge Ion Thruster $\mu$ 10 during Space Operation**

Ryo Shirakawa, Yusuke Yamashita, Daiki Koda, Ryudo Tsukizaki, Yusuke Shimizu, Masahito Tagawa, Kazutaka Nishiyama  
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### **Soft X-ray irradiation effect on the fluorinated DLC film,**

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**Hyperthermal atomic oxygen beam irradiation effect on the hydrogenated Si-doped DLC film**

Kengo Kidena, Minami Endo, Hiroki Takamatsu, Ryo Imai, Masahito Niibe, Kumiko Yokota, Masahito Tagawa, Yuichi Furuyama, Keiji Komatsu, Hidetoshi Saitoh, Kazuhiko Kanda,  
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**Resistance of hydrogenated Ti-containing DLC film to hyperthermal atomic oxygen**

Kengo Kidena, Minami Endo, Hiroki Takamatsu, Masahito Niibe, Masahito Tagawa, Kumiko Yokota, Yuichi Furuyama, Keiji Komatsu, Hidetoshi Saitoh, Kazuhiro Kanda,  
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**Hyperthermal atomic oxygen beam irradiation effect on the Ti-containing DLC film**

Kazuhiro Kanda, Kazuhiro Fukuda, Ryo Imai, Masahito Niibe, Sinya Fujimoto, Kumiko Yokota, Masahito Tagawa,  
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Kumiko Yokota, Daiki Watanabe, Junki Ohira, Masahito Tagawa,  
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Kumiko Yokota, Masahito Tagawa, Akitaka Yoshigoe, Yuden Teraoka,  
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**Effect of Atomic Oxygen Irradiation on Field Emission Cathodes in Low Earth Orbit**

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Kumiko Yokota, Shigeru Yasuda, Akira Mizutani, Masahito Tagawa,  
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Masahito Tagawa, Kazutaka Nishiyama, Kumiko Yokota, Yasuo Yoshizawa, Daisaku Yamamoto, Takaho Tsuboi, Hitoshi Kuninaka,  
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Masahito Tagawa, Kazuhiro Kishida, Kumiko Yokota, Yugo Kimoto, Mayuko Koga, Hiroaki Nishimura,  
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Masahito Tagawa, Kumiko Yokota, Kunitaka Ochi, Masao Akiyama, Koji Matsumoto, Mineo Suzuki,  
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