



[Electrical Engineering](#) > HAMADA Toshiyuki



HAMADA Toshiyuki

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| Organization | Electrical Engineering |
| Position | Lecturer |
| Academic Title | Doctor(Engineering) |
| Research Fields | Plasma Engineering, High-Voltage Engineering |

<< Research Subjects >>

1. [Studies on maskless etching technique using atmospheric pressure surface discharge.](#)
2. [High density ozone generates technique using dielectric barrier discharge.](#)

<< Academic Activities >>

Papers and Notes

1. [T. Arimura, K. Hirano, T. Hamada, T. Sakoda: "Frequency Dependence on Etching Characteristics of Silicon using Surface Discharge Plasma", The transactions of the Institute of Electrical Engineers of Japan. A, Vol.132, No.4, pp.333-334, \(2012\). \[in Japanese\]](#)
2. [T. Hamada, T. Arimura, and T. Sakoda: "Studies on optimal gas supply for a maskless etching system with micro-discharge plasma operated at atmospheric pressure". Plasma Chemistry and Plasma Processing, Vol.32, No.2, pp.325-332, \(2012\).](#)
3. [T. Hamada, T. Sakoda: "Etching Characteristics of Fabricated Grooves on Silicon Solar Cell Using Surface Discharge Plasma", Transactions on, Vol.130, No.11, pp.999-1003, \(November 2010\).](#)
4. [T. Hamada, T. Mizumoto, T. Arimura, T. Sakoda: "Maskless Etching using Atmospheric Pressure Non-Thermal Surface Discharge Plasma", The transactions of the Institute of Electrical Engineers of Japan. A, Vol.130, No.10, pp.907-912, \(2010\). \[in Japanese\]](#)
5. [T. Hamada, M. Otsubo and T. Sakoda: "Examination of Maskless Etching Technique Using a Localized Surface Discharge Plasma", The Institute of Electrical Engineers of Japan Transactions on Electrical and Electronic Engineering \(IEEJ-TEEE\), Vol.5, No.1, pp.115-117, \(2010\).](#)
6. [T. Hamada, T. Sakoda, M. Otsubo: "Studies on non-thermal atmospheric pressure plasma process conditions for groove formation on silicon nitride for silicon solar cells", Materials Science in Semiconductor Processing, Vol.12, No.3, pp.106-112, \(2009\).](#)
7. [T. Hamada, M. Otsubo and T. Sakoda: "Plasma Grooving System Using Atmospheric Pressure Surface Discharge Plasma", Plasma Chemistry and Plasma Processing, Vol.29, Issues 3, pp.197-204, \(2009\).](#)
8. [T. Hamada, S. Arakawa, M. Otsubo, T. Sakoda: "Fabrication of Electrode Groove on Silicon Solar Cell using High-Pressure Surface Discharge", The transactions of the Institute of Electrical Engineers of Japan. A, Vol.128, No.12, pp.733-739, \(2008\). \[in Japanese\]](#)
9. [T. Hamada, S. Arakawa, T. Sakoda, M. Otsubo, K. Matsui, K. Nagasawa: "Optimization of Convex Electrode Geometry for Surface Discharge Used for Fabrication of the Electrode Groove on Solar Cells", Surface & Coatings Technology, Vol.202, No.22-23, pp.5405-5409, \(2008\).](#)
10. [T. Sakoda, T. Hamada, K. Matsukuma, H. Herai, K. Matsui and K. Nagasawa: "Selective Etching of Silicon Nitride Film on Single Crystalline Silicon Solar Cell Using Intensive Surface Discharge", Japanese Journal of Applied Physics, Vol.45, No.5A, pp.3992-3993, \(2006\).](#)
11. [T. Sakoda, T. Hamada, and K. Matsukuma: "Plasma Surface Texturing of Single-Crystal Silicon Using Dielectric Barrier Discharge", Transactions of the Materials Research Society of Japan, Vol.30, No.3, pp.595-598, \(2005\).](#)

Presentations

1. [Takuya Arimura, Takayuki Mizumoto, Toshiyuki Hamada, Tatsuya Sakoda: "Development of a Grooving System for Solar Cell", 16th International Conference on Electrical Engineering, No.PS-HV&ED-18, proc.CD-ROM, Busan\(Korea\), July\(2010\).](#)

2. [T. Hamada, T. Sakoda, M. Otsubo: "Studies on Etching Characteristics of Fabricated Grooves on Silicon Solar Cell Using Surface Discharge Plasma". Korea-Japan Joint Symposium on Electrical Discharge and High Voltage Engineering, No.PD-15, pp.234-237, Busan \(Korea\) , November \(2009\).](#)
3. [T. Mizumoto, T. Hamada, T. Sakoda, M. Otsubo: "Silicon etching using atmospheric pressure surface discharge plasmas operated with different power sources". The 7th Asia-European International Conference on Plasma Surface Engineering, No.PA3061, pp.421, Busan\(Korea\), September\(2009\)](#)
4. [T. Hamada, T. Sakoda, M. Otsubo: "Maskless Plasma Etching Technique Using Surface Discharge Plasma", The 7th Asia-European International Conference on Plasma Surface Engineering, No.PA1040, pp.214, Busan\(Korea\), September\(2009\).](#)
5. [T. Hamada, T. Sakoda, M. Otsubo: "Studies on Si etching using atmospheric pressure surface discharge plasma". The 10th International Symposium on Sputtering and Plasma Processes, No.PP P-2, pp.496-499, Kanazawa\(Japan\), July\(2009\).](#)
6. [T. Hamada, T. Sakoda, M. Otsubo: "STUDIES ON ETCHINGS OF SILICON NITRIDE FILMS WITH VARIOUS FILM THICKNESS SILICON SUBSTRATES USING SURFACE DISCHARGE". The 4th International Congress on Cold Atmospheric Pressure Plasmas, pp.37-40, Gent\(Belgium\), June\(2009\).](#)
7. [T. Hamada, T. Sakoda, M. Otsubo: "STUDIES ON FORMATION OF ELECTRODE GROOVES FOR SOLAR CELL USING HIGH PRESSURE SURFACE DISCHARGE", The 4th International Congress on Cold Atmospheric Pressure Plasmas, pp.33-36, Gent\(Belgium\), June\(2009\).](#)
8. [T. Hamada, M. Otsubo, T. Sakoda: "Etching of Silicon Nitride Using Atmospheric Pressure Surface Discharge Plasma", The 7th International Conference on Materials Processing for Properties and Performance, No.AMFT-7005, Proc.CD-ROM, Singapore, November\(2008\).](#)
9. [R. Hirayama, T. Hamada, M. Otsubo and T. Sakoda: "Si Etching by Atmospheric Pressure Surface Discharge", 4th Vacuum and Surface Sciences Conference of Asia and Australia, No.28P016, pp.180, Matsue\(Japan\), October \(2008\).](#)
10. [T. Hamada, T. Rokuta, R. Kondo, M. Otsubo and T. Sakoda: "Plasma Grooving System Using Surface Discharge Plasma". 4th Vacuum and Surface Sciences Conference of Asia and Australia, No.28P024, pp.188, Matsue\(Japan\), October\(2008\).](#)
11. [T. Hamada, S. Arakawa, T. Sakoda, M. Otsubo: "Fabrication of Electrode Grooves on Solar Cells Using Surface Discharge", 17th International Photovoltaic Science and Engineering Conference, No.4P-P2-17, pp.708-709, Fukuoka\(Japan\), December\(2007\).](#)
12. [S. Arakawa, T. Hamada, T. Sakoda, M. Otsubo: "Effects of Back Electrode for Etching of Silicon Nitride Film on Solar Cells Using Surface Discharge", 2007 Japan-Korea Joint Symposium on Electrical Discharge and High Voltage Engineering, No.16B-p5, pp.91-94, Tokyo\(Japan\), November\(2007\).](#)
13. [M. Esaki, M. Taniguchi, T. Hamada, D. Tashima, T. Sakoda, and M. Otsubo: "Effect of Surface Modification of Carbon Electrode for Electric Double Layer Capacitor Using Dielectric Barrier Discharge", 6th Asian-European International Conference on Plasma Surface Engineering, No.P2037, pp.205, Nagasaki\(Japan\), September\(2007\).](#)
14. [T. Hamada, S. Arakawa, T. Sakoda, M. Otsubo, K. Matsui, K. Nagasawa: "Optimization of Convex Electrode Geometry for Surface Discharge Used for Fabrication of the Electrode Groove on Solar Cells", 6th Asian-European International Conference on Plasma Surface Engineering, No.2023, pp.191, Nagasaki\(Japan\), Septembe\(2007\).](#)
15. [T. Hamada, T. Sakoda, M. Otsubo, M. Matsui and K. Nagasawa: "Evaluation of Electrode Grooves Formed Using Surface Discharge Plasma", 18th International Symposium on Plasma Chemistry, No.28-P74, Proc.CD-ROM, Kyoto\(Japan\), August\(2007\).](#)
16. [T. Hamada, T. Sakoda, K. Matsukuma, H. Herai, K. Matsui, K. Nagasawa: "Studies of Conditions Required for Formation of Electrode Grooves on Silicon Solar Cell Using Surface Discharge", 13th Asian Conference on Electrical Discharge, No.O-14, Proc.CD-ROM, Hokkaido\(Japan\), October\(2006\).](#)