

研究発表／RESULTS

Publications 2004-2003

2004

1. T. Aoki and J. Matsuo
"Molecular dynamics simulations of sequential cluster ion impacts"
Nuclear Instruments and Methods in Physics Research B, Vol.228 (2005) pp.46-50
2. T. Seki, J. Matsuo
"Surface smoothing with large current cluster ion beam"
Nuclear Instruments and Methods in Physics Research B Vol.216 (2004) pp. 191-195
3. E.Bourelle, A.Suzuki, A.Sato, T.Seki, J.Matsuo
"Polishing of Sidewall Surfaces Using a Gas Cluster Ion Beam"
Japanese Journal of Applied Physics, Vol.43 (2004) pp. L1253-L1255
4. S. Kakuta, T. Seki, S. Sasaki, K. Furusawa, T. Aoki and J. Matsuo
"Fast Neutral Ar Penetratio during Gas Cluster Ion Beam Irradiation into Magnetic Thin Films"
Materials Research Society Symposium Proceedings, Vol.792 (2004) pp.599-604
5. J. Matsuo, C. Okubo, T. Seki, T. Aoki, N. Toyoda and I. Yamada
"A new secondary ion mass spectrometry (SIMS) system with high-intensity cluster ion source"
Nuclear Instruments and Methods in Physics Research B, Vol.219-220 (2004) pp.463-467
6. N. Toyoda, J. Matsuo, I. Yamada
"Surface modification with gas cluster ion beams from funfamental characteristics to applications"
Nuclear Instruments and Methods in Physics Research B, Vol.216 (2004) pp.379-389
7. T. Seki and J. Matsuo
"High-speed Processing with Cluster Ion Beam"
Materials Research Society Symposium Proceedings, Vol.792 (2004) pp.593-598
8. T. Aoki, J. Matsuo and I. Yamada
"Molecular dynamics simulations of sequential cluster ion impacts"
Nuclear Instruments and Methods in Physics Research B, (2004)
9. T. Aoki, J. Matsuo and I. Yamada
"Molecular Dynamics Study of Surface Morphological Evolution by Cluster Impacts"
Materials Research Society Symposium Proceedings, Vol.792 (2004) pp.R4.7.1-R4.7.6
10. S. Ninomiya, C. Imada, M. Nagai, Y. Nakata, and N. Imanishi
" Secondary cluster-ion emission from III-V semiconductive materials under MeV-energy heavy-ion bombardment ",
Physical Review A 70 (2004) pp. 042903-1 – 042903-8.
11. S. Ninomiya and N. Imanishi
"Material dependence of electronic sputtering induced by MeV-energy heavy ions",
Vacuum 73 (2004) pp. 79-87.
12. N. Imanishi and S. Ninomiya
"Nuclear and Electronic Sputtering Induced by High Energy Heavy Ions"
Journal of Nuclear and Radiochemical Sciences 5 No.1 (2004) pp. R9-R17.

2003

1. T. Kitagawa, K. Miyauchi, K. Kanda, Y. Shimizugawa, N. Toyoda, H. Tsubakino, S. Matsui, J. Matsuo and I. Yamada
"Near Edge X-Ray Absorption Fine Structure Study for Optimization of Hard Diamond-Like Carbon Film Formation with Ar Cluster Ion Beam"
Jpn. J. Appl. Phys. Vol. 42 (2003) pp.3971-3975: (H04, 0000)
2. T. Aoki and J. Matsuo
"Surface structure dependence of impact processes of gas cluster ions"
Nuclear Instruments and Methods in Physics Research B, Vol.216 (2003) pp.185-190
3. K. Kimura, Y. Oota, K. Nakajima, M. Suzuki, T. Aoki, J. Matsuo
"Molecular effect on projected range in ultra low-energy ion implantation"
Nuclear Instruments and Methods in Physics Research B, Vol.211 (2003) pp.206-210
4. T. Aoki, J. Matsuo and G. Takaoka
"Study of damage formation by low-energy boron cluster ion implantation"
Proc.14th Int'l Conf.on Ion Implantation Technology (2003)
5. T. Seki, T.AOKI, A. Nakai, J. Matsuo and G. H.Takaoka
"Threshold Energy for Generating Damage with Cluster Ion Irradiation"
Proc. of Materials Research Society Symposium, Vol.750 (2003) pp.335-340
6. T. Aoki, A. Nakai, J. Matsuo and G. Takaoka
"Study of Surface Morphological Evolution by Cluster Ion Irradiation on Solid Targets"
Proc. of Materials Research Society Symposium, Vol.749 (2003) pp.311-316
7. T. Aoki, T. Seki, A. Nakai, J. Matsuo and G. Takaoka
"Cluster Size Effect on Surface Modification Process Using Cluster Ion Beam"
Transactions of the Materials Research Society of Japan, Vol.28(2)(2003) pp.485-488
8. J. Matsuo, T. Kitagawa, Y. Shimizugawa, H.Kageyama, K. Kanda, T. Seki, T. Aoki, S. Matsui, I. Yamada,
"XAFS study of thin films fabricated with cluster ion assisted deposition technique"
Trans. Mat. Res. Soc. Jpn. Vol 28 (2003) pp. 101-106
9. 松尾二郎・瀬木利夫・青木学聰
"クラスターイオン衝突における非線形照射効果とそのプロセス応用 (Non-Linear Effects in Cluster Impacts and Its Application to Nano-Fabrication)"
高温学会誌 Vol.29.5 (2003) pp.201-206
10. T. Aoki, T. Seki, A. Nakai, J. Matsuo and G. H. Takaoka
"Study of Cluster-size Effect on Damage Formation"
Proc. 17th Int'l Conf. on Application of Accelerators in Research and Industry (AIP CP680) (2003) pp.741-744
11. T. Seki, J. Matsuo and G. H. Takaoka,
"High Current Cluster Ion Beam Source"
Proc. 17th Int'l Conf. on Application of Accelerators in Research and Industry (AIP CP680) (2003) pp.715-718
12. T.Seki, Jiro Matsuo, G.H.Takaoka, Isao Yamada
"Generation of the large current cluster ion beam"
Nuclear Instruments and Methods in Physics Research B, Vol.206 (2003) pp.902-906
13. T. Aoki, J. Matsuo, G. Takaoka, I. Yamada
"Cluster species and cluster size dependence of damage formation by cluster ion impact"
Nuclear Instruments and Methods in Physics Research B, Vol.206 (2003) pp.861-865
14. T. Aoki, J. Matsuo, G. Takaoka, N. Toyoda, I. Yamada
"Defect characteristics by boron clustr ion implantation"
Nuclear Instruments and Methods in Physics Research B, Vol.206 (2003) pp.855-860
15. A.Nakai, T.Aoki, T.Seki, J. Matsuo, G.H.Takaoka, I.Yamada
"Modeling of surface smoothing process by cluster ion beam irradiation"
Nuclear Instruments and Methods in Physics Research B, Vol.206 (2003) pp.842-845
16. J. Matsuo, T. Seki, T. Aoki, I. Yamada

"Atomic study of cluster collision on solid surfaces"

Nuclear Instruments and Methods in Physics Research B, Vol.206 (2003) pp.838-841

17. T. Aoki, J. Matsuo, G. Takaoka

"Molecular dynamics study of damage formation characteristics by large cluster ion impacts"

Nuclear Instruments and Methods in Physics Research B, Vol.202 (2003) pp.278-282

18. S. Ninomiya, S. Gomi, C. Imada, M. Nagai, M. Imai, and N. Imanishi

" Cluster-ion emission from semiconductive chemical compounds under MeV-energy heavy ion bombardment",

Nuclear Instruments and Methods in Physics Research B 209 (2003) pp. 233-238.

19. S. Ninomiya, S. Gomi, C. Imada, M. Nagai, Y. Nakata, M. Imai, and N. Imanishi

" Secondary Ion Emission from Insulators and Semiconductors under MeV-Energy Heavy Ion Bombardment",

Proceedings of the 8th Japan-Russia International Symposium on Interaction of Fast Charged Particles with Solids, (2003) pp. 141-145.