

Ryo Hirose

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Proximity gettering of C ₃ H ₅ carbon cluster ion-implanted silicon wafers for CMOS image sensors: Gettering effects of transition metal, oxygen, and hydrogen impurities. Japanese Journal of Applied Physics, 2016, 55, 121301.	1.5	42
2	Proximity gettering technology for advanced CMOS image sensors using carbon cluster ion-implantation technique: A review. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700216.	1.8	40
3	Trapping and diffusion kinetic of hydrogen in carbon-cluster ion-implantation projected range in Czochralski silicon wafers. Japanese Journal of Applied Physics, 2017, 56, 025601.	1.5	33
4	Proximity Gettering Design of Hydrocarbon-Molecular-Ion-Implanted Silicon Wafers Using Dark Current Spectroscopy for CMOS Image Sensors. Sensors, 2019, 19, 2073.	3.8	20
5	Trapping and diffusion behaviour of hydrogen simulated with TCAD in projection range of carbon-cluster implanted silicon epitaxial wafers for CMOS image sensors. Physica Status Solidi C: Current Topics in Solid State Physics, 2017, 14, .	0.8	19
6	Hydrogen passivation for reduction of SiO ₂ /Si interface state density using hydrocarbon-molecular-ion-implanted silicon wafers. Japanese Journal of Applied Physics, 2020, 59, 125502.	1.5	13
7	Effect of low-oxygen-concentration layer on iron gettering capability of carbon-cluster ion-implanted Si wafer for CMOS image sensors. Japanese Journal of Applied Physics, 2018, 57, 021304.	1.5	12
8	Proximity gettering of silicon wafers using CH ₃ O multielement molecular ion implantation technique. Japanese Journal of Applied Physics, 2018, 57, 096503.	1.5	12
9	Effect of dose and size on defect engineering in carbon cluster implanted silicon wafers. Japanese Journal of Applied Physics, 2018, 57, 011301.	1.5	11
10	Reduction of Dark Current in CMOS Image Sensor Pixels Using Hydrocarbon-Molecular-Ion-Implanted Double Epitaxial Si Wafers. Sensors, 2020, 20, 6620.	3.8	9
11	Room-temperature bonding of epitaxial layer to carbon-cluster ion-implanted silicon wafers for CMOS image sensors. Japanese Journal of Applied Physics, 2018, 57, 061302.	1.5	8
12	Gettering mechanism in hydrocarbon-molecular-ion-implanted epitaxial silicon wafers revealed by three-dimensional atom imaging. Japanese Journal of Applied Physics, 2018, 57, 091302.	1.5	7
13	A Review of Proximity Gettering Technology for CMOS Image Sensors Using Hydrocarbon Molecular Ion Implantation. Sensors and Materials, 2019, 31, 1939.	0.5	7
14	Gettering Sinks for Metallic Impurities Formed by Carbon-Cluster Ion Implantation in Epitaxial Silicon Wafers for CMOS Image Sensor. IEEE Journal of the Electron Devices Society, 2018, 6, 1200-1206.	2.1	6
15	Fundamental Characteristics of Cyanide-Related Multielement Molecular Ion-Implanted Epitaxial Si Wafers for High-Performance CMOS Image Sensors. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900172.	1.8	5
16	Influence of oxygen on copper gettering in hydrocarbon molecular ion implanted region using atom probe tomography. Nuclear Instruments & Methods in Physics Research B, 2020, 478, 99-103.	1.4	4
17	Proximity gettering design of silicon wafers using silicon hydride and hydrocarbon mixture molecular ion implantation technique. Materials Science in Semiconductor Processing, 2021, 135, 106063.	4.0	3
18	Effect of hydrocarbon molecular ion size for amorphous region formation analyzed by X-ray photoelectron spectroscopy. Japanese Journal of Applied Physics, 2020, 59, 025510.	1.5	3

#	ARTICLE	IF	CITATIONS
19	(Invited) Proximity Gettering Design of Hydrocarbon Molecular Ion Implanted Silicon Wafers Using Direct Bonding Technique for Advanced CMOS Image Sensors: A Review. ECS Transactions, 2018, 86, 77-93.	0.5	2
20	Effect of ramping up rate on end of range defect in multielement molecular-ion (CH ₃ O)-implanted silicon wafers. Japanese Journal of Applied Physics, 2019, 58, 121002.	1.5	1
21	Photoemission Spectroscopy Study on Hydrogen Termination Effect on SiO ₂ /Si Structure Fabricated Using H ⁺ -Implanted Si Substrate. Journal of the Electrochemical Society, 2020, 167, 127505.	2.9	1
22	In Situ Transmission Electron Microscopy Study of Shrinkage Kinetics of CH ₄ -Molecular-Ion-Implantation-Induced Extended Defects. Journal of the Electrochemical Society, 2022, 169, 047521.	2.9	1
23	Reduction of White Spot Defects in CMOS Image Sensors Using CH ₂ P-Molecular-Ion-Implanted Epitaxial Silicon Wafers. , 2022, , .		0
24	Dissociation Kinetics of Trapped Hydrogen in High-dose Hydrocarbon-Molecular-Ion-Implanted Silicon during Rapid Thermal Annealing. E-Journal of Surface Science and Nanotechnology, 2022, , .	0.4	0