# Gerhard Hobler

List of Publications by Year
in descending order

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| 97 | 1,710 | 279487 | 329751 |
|---|---|---|---|
| papers | citations | 23 h-index | 37 g-index |

| 97 | 97 | 97 | 982 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Monte Carlo simulation of two-dimensional implanted dopant distributions at mask edges. Nuclear Instruments & Methods in Physics Research B, 1995, 96, 155-162. | 0.6 | 117 |
| 2 | Fundamentals of Focused Ion Beam Nanostructural Processing: Below, At, and Above the Surface. MRS Bulletin, 2007, 32, 424-432. | 1.7 | 87 |
| 3 | Large fraction of crystal directions leads to ion channeling. Physical Review B, 2016, 94, . | 1.1 | 77 |
| 4 | Status and open problems in modeling of as-implanted damage in silicon. Materials Science in Semiconductor Processing, 2003, 6, 1-14. | 1.9 | 68 |
| 5 | Full three-dimensional simulation of focused ion beam micro/nanofabrication. Nanotechnology, 2007, 18, 245303. | 1.3 | 63 |
| 6 | Critical angles and low-energy limits to ion channeling in silicon. Radiation Effects and Defects in Solids, 1996, 139, 21-85. | 0.4 | 61 |
| 7 | Round robin computer simulation of ion transmission through crystalline layers. Nuclear Instruments & Methods in Physics Research B, 1995, 102, 183-197. | 0.6 | 60 |
| 8 | Modeling of the ion mass effect on transient enhanced diffusion: Deviation from the â€œ+1â€•model. Applied Physics Letters, 1998, 73, 1421-1423. | 1.5 | 58 |
| 9 | Current density profile extraction of focused ion beams based on atomic force microscopy contour profiling of nanodots. Journal of Applied Physics, 2002, 92, 4037-4042. | 1.1 | 53 |
| 10 | Two-dimensional modeling of ion implantation induced point defects. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 1988, 7, 174-180. | 1.9 | 50 |
| 11 | On the useful range of application of molecular dynamics simulations in the recoil interaction approximation. Nuclear Instruments & Methods in Physics Research B, 2001, 180, 203-208. | 0.6 | 48 |
| 12 | Simulation of ion beam induced micro/nano fabrication. Journal of Micromechanics and Microengineering, 2007, 17, 1178-1183. | 1.5 | 47 |
| 13 | Boron channeling implantations in silicon: Modeling of electronic stopping and damage accumulation. Journal of Applied Physics, 1995, 77, 3697-3703. | 1.1 | 46 |
| 14 | Comparison of Transmission Electron Microscope Cross Sections of Amorphous Regions in Ion Implanted Silicon with Pointâ€Defect Density Calculations. Journal of the Electrochemical Society, 1992, 139, 3631-3638. | 1.3 | 42 |
| 15 | Monte Carlo simulations of defect recovery within a 10 keV collision cascade in 3Câ€“SiC. Journal of Applied Physics, 2007, 102, . | 1.1 | 41 |
| 16 | Monte Carlo simulation of ion implantation into two- and three-dimensional structures. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 1989, 8, 450-459. | 1.9 | 36 |
| 17 | Two-dimensional modeling of ion implantation with spatial moments. Solid-State Electronics, 1987, 30, 445-455. | 0.8 | 33 |
| 18 | Computer Simulation of Oxygen Precipitation in Czochralskiâ€Grown Silicon during HIâ€LOâ€HI Anneals. Journal of the Electrochemical Society, 1996, 143, 995-1001. | 1.3 | 32 |

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|---|---|---|---|
| 19 | A model for oxygen precipitation in silicon including bulk stacking fault growth. Journal of Applied Physics, 1995, 78, 6469-6476. | 1.1 | 29 |
| 20 | FIBSIM â€“ dynamic Monte Carlo simulation of compositional and topography changes caused by focused ion beam milling. Nuclear Instruments & Methods in Physics Research B, 2001, 180, 125-129. | 0.6 | 29 |
| 21 | Level set approach for the simulation of focused ion beam processing on the micro/nano scale. Nanotechnology, 2007, 18, 265307. | 1.3 | 24 |
| 22 | Probing the limitations of Sigmund's model of spatially resolved sputtering using Monte Carlo simulations. Physical Review B, 2016, 93, . | 1.1 | 24 |
| 23 | Assessment of approximations for efficient topography simulation of ion beam processes: 10keV Ar on Si. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 2987-2990. | 0.6 | 23 |
| 24 | Round robin computer simulation of ion transmission through crystalline layers. , 1995, 102, 183-183. | | 23 |
| 25 | Simulation-based approach for the accurate fabrication of blazed grating structures by FIB. Optics Express, 2007, 15, 9444. | 1.7 | 22 |
| 26 | Defect characterization of low-energy recoil events in silicon using classical molecular dynamics simulation. Nuclear Instruments & Methods in Physics Research B, 2003, 202, 114-119. | 0.6 | 21 |
| 27 | Amorphous pocket model for silicon based on molecular dynamics simulations. Nuclear Instruments & Methods in Physics Research B, 2003, 206, 81-84. | 0.6 | 21 |
| 28 | Simulation of topography evolution and damage formation during TEM sample preparation using focused ion beams. Nuclear Instruments & Methods in Physics Research B, 2001, 175-177, 102-107. | 0.6 | 20 |
| 29 | Determination of silicon point defect parameters and reaction barrier energies from gold diffusion experiments. Journal of Applied Physics, 1995, 77, 1320-1322. | 1.1 | 19 |
| 30 | Range of ion-implanted rare earth elements in Si and SiO2. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2001, 81, 83-85. | 1.7 | 19 |
| 31 | Dose, Energy, and Ion Species Dependence of the Effective Plus Factor for Transient Enhanced Diffusion. Journal of the Electrochemical Society, 2000, 147, 3494. | 1.3 | 18 |
| 32 | The significance of redeposition and backscattering in nanostructure formation by focused ion beams. Nuclear Instruments & Methods in Physics Research B, 2012, 282, 12-16. | 0.6 | 18 |
| 33 | Random and channeling stopping power of H in Si below 100keV. Nuclear Instruments & Methods in Physics Research B, 2006, 242, 617-619. | 0.6 | 16 |
| 34 | Dynamic binary collision simulation of focused ion beam milling of deep trenches. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 1609-1613. | 0.6 | 16 |
| 35 | Theoretical estimate of the low-energy limit to ion channeling. Nuclear Instruments & Methods in Physics Research B, 1996, 115, 323-327. | 0.6 | 14 |
| 36 | Electronic Stopping of Channeled Ions in Silicon. Materials Research Society Symposia Proceedings, 1992, 279, 165. | 0.1 | 13 |

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| 37 | Model for the electronic stopping of channeled ions in silicon around the stopping power maximum. Nuclear Instruments & Methods in Physics Research B, 1995, 106, 47-50. | 0.6 | 13 |
| 38 | Method to characterize the three-dimensional distribution of focused ion beam induced damage in silicon after 50 keV Ga+ irradiation. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2003, 21, 1644-1648. | 0.9 | 13 |
| 39 | Range evaluation in SIMS depth profiles of Er-implantations in silicon. Applied Surface Science, 2005, 252, 271-277. | 3.1 | 13 |
| 40 | Sputtering of silicon at glancing incidence. Nuclear Instruments & Methods in Physics Research B, 2013, 303, 142-147. | 0.6 | 13 |
| 41 | Absence of a Crystal Direction Regime in which Sputtering Corresponds to Amorphous Material. Physical Review Letters, 2020, 125, 225502. | 2.9 | 13 |
| 42 | Verification of models for the simulation of boron implantation into crystalline silicon. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1996, 14, 272. | 1.6 | 12 |
| 43 | Modeling of {311} Defects. Materials Research Society Symposia Proceedings, 1999, 568, 123. | 0.1 | 11 |
| 44 | Modeling of electronic stopping and damage accumulation during arsenic implantation in silicon. Nuclear Instruments & Methods in Physics Research B, 1995, 100, 483-489. | 0.6 | 10 |
| 45 | Quantitative simulation of ion-beam induced deposition of nanostructures. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, . | 0.6 | 10 |
| 46 | Model-independent determination of 2D strain distribution in ion-implanted silicon crystals from x-ray diffraction data. Semiconductor Science and Technology, 1997, 12, 350-354. | 1.0 | 9 |
| 47 | Continuum treatment of spatial correlation in damage annealing. Nuclear Instruments & Methods in Physics Research B, 1999, 153, 172-176. | 0.6 | 9 |
| 48 | Ion multibeam nanopatterning for photonic applications: Experiments and simulations, including study of precursor gas induced etching and deposition. Journal of Vacuum Science & Technology B, 2009, 27, 2668. | 1.3 | 9 |
| 49 | Crater function moments: Role of implanted noble gas atoms. Physical Review B, 2018, 97, . | 1.1 | 9 |
| 50 | Channeling of low-energy implanted ions through the poly-Si gate. IEEE Electron Device Letters, 1999, 20, 357-359. | 2.2 | 8 |
| 51 | Modeling of amorphous pocket formation in silicon by numerical solution of the heat transport equation. Nuclear Instruments & Methods in Physics Research B, 2005, 228, 226-229. | 0.6 | 8 |
| 52 | Inverse modeling of FIB milling by dose profile optimization. Nuclear Instruments & Methods in Physics Research B, 2014, 341, 77-83. | 0.6 | 8 |
| 53 | Sputtering of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Si</mml:mi><mml:mi>a</mml:mi></mml:msub></mml:mrow></mml:math> nanospheres. Physical Review B, 2018, 97, . | | 8 |
| 54 | Dependence of ion channeling on relative atomic number in compounds. Nuclear Instruments & Methods in Physics Research B, 2018, 435, 61-69. | 0.6 | 8 |

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| 55 | AN EMPIRICAL MODEL FOR THE ELECTRONIC STOPPING OF BORON IN SILICON. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 1991, 10, 323-330. | 0.5 | 7 |
| 56 | Acceleration of binary collision simulations in crystalline targets using critical angles for ion channeling. Nuclear Instruments & Methods in Physics Research B, 1995, 102, 24-28. | 0.6 | 7 |
| 57 | Modeling of ultra-low energy boron implantation in silicon. , 0, , . | | 7 |
| 58 | Ab initio calculations of the interaction between native point defects in silicon. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2005, 124-125, 368-371. | 1.7 | 7 |
| 59 | Multiscale approach for the analysis of channeling profile measurements of ion implantation damage. Nuclear Instruments & Methods in Physics Research B, 2005, 228, 360-363. | 0.6 | 7 |
| 60 | THE EFFECT OF A SCREENING OXIDE ON ION IMPLANTATION STUDIED BY MONTE CARLO SIMULATIONS. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 1992, 11, 403-411. | 0.5 | 6 |
| 61 | Modeling of precursor coverage in ion-beam induced etching and verification with experiments using XeF2 on SiO2. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2010, 28, 946-951. | 0.6 | 6 |
| 62 | Channeling maps for Si ions in Si: Assessing the binary collision approximation. Nuclear Instruments & Methods in Physics Research B, 2019, 449, 17-21. | 0.6 | 6 |
| 63 | Dependence of boron axial channelling in silicon on crystal orientation. Surface and Interface Analysis, 1992, 19, 369-373. | 0.8 | 5 |
| 64 | Verification of â€œlateral secondary ion mass spectrometryâ€•as a method for measuring lateral dopant dose distributions in microelectronics test structures. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 386. | 1.6 | 5 |
| 65 | Sputter-redeposition method for the fabrication of automatically sealed micro/nanochannel using FIBs. International Journal of Precision Engineering and Manufacturing, 2011, 12, 893-898. | 1.1 | 5 |
| 66 | Topography simulation of sputtering using an algorithm with second order approximation in space. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 1614-1618. | 0.6 | 5 |
| 67 | Sputtering of silicon membranes with nanoscale thickness. Journal of Applied Physics, 2016, 119, . | 1.1 | 5 |
| 68 | Simple model of surface roughness for binary collision sputtering simulations. Nuclear Instruments & Methods in Physics Research B, 2017, 393, 17-21. | 0.6 | 5 |
| 69 | Initial Conditions for Transient Enhanced Diffusion: Beyond the Plus-Factor Approach. , 2001, , 34-37. | | 5 |
| 70 | A study of ultra-shallow implanted dopant profiles in silicon using BC and MD simulations. Radiation Effects and Defects in Solids, 1997, 141, 113-125. | 0.4 | 4 |
| 71 | Hydrogen/Deuterium-defect complexes involved in the ion cutting of Si (001) at the sub-100nm scale. Physica B: Condensed Matter, 2006, 376-377, 36-40. | 1.3 | 4 |
| 72 | Boron implantation in Si: Channeling effects studied by SIMS and simulation. Mikrochimica Acta, 1992, 107, 161-169. | 2.5 | 3 |

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| 73 | Coupled BC/kLMC simulations of the temperature dependence of implant damage formation in silicon. Nuclear Instruments & Methods in Physics Research B, 2005, 228, 256-259. | 0.6 | 3 |
| 74 | Amorphous pockets in Si: Comparison of coupled molecular dynamics and TEM image contrast simulations with experimental results. Nuclear Instruments & Methods in Physics Research B, 2007, 255, 105-109. | 0.6 | 3 |
| 75 | Assessment of surface potential models by molecular dynamics simulations of atom ejection from (100)-Si surfaces. Nuclear Instruments & Methods in Physics Research B, 2013, 303, 165-169. | 0.6 | 3 |
| 76 | Combined binary collision and continuum mechanics model applied to focused ion beam milling of a silicon membrane. Nuclear Instruments & Methods in Physics Research B, 2015, 352, 22-26. | 0.6 | 3 |
| 77 | Simulation Study of Al Channeling in 4H-SiC. , 2018, , . | | 3 |
| 78 | Ion bombardment induced atom redistribution in amorphous targets: MD versus BCA. Nuclear Instruments & Methods in Physics Research B, 2019, 447, 30-33. | 0.6 | 3 |
| 79 | Second order corrections to the sputter yield of a curved surface. Journal of Applied Physics, 2021, 129, . | 1.1 | 3 |
| 80 | Simulation of two-dimensional implantation profiles with a large concentration range in crystalline silicon using an advanced Monte Carlo method. , 0, , . | | 2 |
| 81 | Use of transient enhanced diffusion to tailor boron out-diffusion. IEEE Transactions on Electron Devices, 2000, 47, 1401-1405. | 1.6 | 2 |
| 82 | Investigation of the impact of defect models on Monte Carlo simulations of RBS/C spectra. Nuclear Instruments & Methods in Physics Research B, 2006, 249, 776-779. | 0.6 | 2 |
| 83 | Amorphous pocket model based on the modified heat transport equation and local lattice collapse. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 1229-1231. | 0.6 | 2 |
| 84 | Channeled MeV B, P and As Profiles in Si(100): Monte-Carlo Models and SIMS. , 2018, , . | | 2 |
| 85 | Aspects of Highly-channeled MeV Implants of Dopants in Si(100). , 2019, , . | | 2 |
| 86 | Calculation of internal gettering sites after double-step and CMOS-type thermal anneals. Microelectronic Engineering, 1991, 15, 57-60. | 1.1 | 1 |
| 87 | Comparison of Damage Accumulation Models for Boron Implantation in Silicon. Materials Research Society Symposia Proceedings, 1995, 389, 221. | 0.1 | 1 |
| 88 | Simulation of Focused Ion Beam Induced Damage Formation in Crystalline Silicon. Materials Research Society Symposia Proceedings, 2003, 792, 68. | 0.1 | 1 |
| 89 | Dose-rate dependence of damage formation in Si by N implantation as determined from channeling profile measurements. Nuclear Instruments & Methods in Physics Research B, 2006, 242, 667-669. | 0.6 | 1 |
| 90 | Simulation of Ion-beam Induced Etching and Deposition Using a Non-local Recoil-based Algorithm. Materials Research Society Symposia Proceedings, 2009, 1181, 42. | 0.1 | 1 |

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| 91 | Monte Carlo Simulation of Multiple-Species Ion Implantation and its Application to the Modeling of 0.1Âµ PMOS Devices. , 1995, , 484-487. | | 1 |
| 92 | Simple Formulae for the Effective Plus-Factor for Transient Enhanced Diffusion. , 2000, , . | | 0 |
| 93 | Coupled Kinetic Monte Carlo and Molecular Dynamics Simulations of Implant Damage Accumulation in Silicon. Materials Research Society Symposia Proceedings, 2003, 792, 434. | 0.1 | 0 |
| 94 | Is there an influence of ion-beam-induced interfacial amorphization on the a/c-interface depth in silicon at common implantation energies?. Nuclear Instruments & Methods in Physics Research B, 2006, 253, 227-231. | 0.6 | 0 |
| 95 | A Kinetic Model for Precipitation of Oxygen in Silicon. , 1996, , 447-454. | | 0 |
| 96 | Model for the electronic stopping of channeled ions in silicon around the stopping power maximum. , 1996, , 47-50. | | 0 |
| 97 | Ion Beam Devices for Material Processing andÂAnalysis. , 2008, , 231-263. | | 0 |