

# Zoltán Hajnal

## List of Publications by Year in descending order

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53  
papers

2,424  
citations

304743

22  
h-index

197818

49  
g-index

53  
all docs

53  
docs citations

53  
times ranked

2453  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Self-Consistent Charge Density-Functional Based Tight-Binding Method for Predictive Materials Simulations in Physics, Chemistry and Biology. <i>Physica Status Solidi (B): Basic Research</i> , 2000, 217, 41-62.	1.5	508
2	Atomistic simulations of complex materials: ground-state and excited-state properties. <i>Journal of Physics Condensed Matter</i> , 2002, 14, 3015-3047.	1.8	423
3	Role of oxygen vacancy defect states in the n-type conduction of $\hat{\Gamma}^2$ -Ga <sub>2</sub> O <sub>3</sub> . <i>Journal of Applied Physics</i> , 1999, 86, 3792-3796.	2.5	203
4	Defects in SiO <sub>2</sub> as the possible origin of near interface traps in the SiC $\hat{\Gamma}$ -SiO <sub>2</sub> system: A systematic theoretical study. <i>Physical Review B</i> , 2005, 72, .	3.2	151
5	Theoretical study of the mechanism of dry oxidation of 4H-SiC. <i>Physical Review B</i> , 2005, 71, .	3.2	133
6	Structure of the silicon vacancy in 6H $\hat{\Gamma}$ -SiC after annealing identified as the carbon vacancy $\hat{\Gamma}$ -carbon antisite pair. <i>Physical Review B</i> , 2001, 64, .	3.2	106
7	Theoretical investigation of carbon defects and diffusion in $\hat{\Gamma}^{\pm}$ -quartz. <i>Physical Review B</i> , 2001, 64, .	3.2	75
8	Density-functional-based predictions of Raman and IR spectra for small Si clusters. <i>Physical Review B</i> , 1997, 55, 2549-2555.	3.2	71
9	Tubular structures of GaS. <i>Physical Review B</i> , 2004, 69, .	3.2	62
10	Metastability of the Neutral Silicon Vacancy in 4H-SiC. <i>Physica Status Solidi (B): Basic Research</i> , 2000, 217, r1-r3.	1.5	52
11	Isolated oxygen defects in 3C- and 4H-SiC: A theoretical study. <i>Physical Review B</i> , 2002, 66, .	3.2	47
12	Vibrational signatures for low-energy intermediate-sized Si clusters. <i>Physical Review B</i> , 1996, 54, 2863-2867.	3.2	39
13	Hydrogenated and deuterated iron clusters: Infrared spectra and density functional calculations. <i>Journal of Chemical Physics</i> , 1998, 109, 10692-10700.	3.0	38
14	Channeling-like effects due to the macroscopic structure of porous silicon. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 1996, 118, 617-621.	1.4	36
15	Theoretical study of the nonpolar surfaces and their oxygen passivation in 4H- and 6H-SiC. <i>Physical Review B</i> , 2001, 64, .	3.2	35
16	Theoretical study of the adsorption of a PTCDA monolayer on S-passivated GaAs(100). <i>Applied Surface Science</i> , 2004, 234, 173-177.	6.1	34
17	Physics and chemistry of hydrogen in the vacancies of semiconductors. <i>Physical Review B</i> , 2003, 68, .	3.2	30
18	Simulation of physical properties of the chalcogenide glass As <sub>2</sub> S <sub>3</sub> using a density-functional-based tight-binding method. <i>Physical Review B</i> , 2004, 69, .	3.2	30

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19	Spiral-Shaped Piezoelectric MEMS Cantilever Array for Fully Implantable Hearing Systems. <i>Micromachines</i> , 2017, 8, 311.	2.9	27
20	Tubular structures of germanium. <i>Solid State Communications</i> , 2001, 119, 653-657.	1.9	23
21	Chalcogen passivation of GaAs(1 0 0) surfaces: theoretical study. <i>Applied Surface Science</i> , 2003, 212-213, 861-865.	6.1	23
22	Theoretical study of the luminescent substoichiometric silicon oxides (SiO <sub>x</sub> ). <i>Solid State Communications</i> , 1998, 108, 93-97.	1.9	22
23	Band structure and optical properties of germanium sheet polymers. <i>Physical Review B</i> , 2001, 64, .	3.2	18
24	Morphological investigation of porous samples by resonant backscattering spectrometry. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 1998, 136-138, 533-539.	1.4	17
25	Defects of the SiC/SiO <sub>2</sub> interface: energetics of the elementary steps of the oxidation reaction. <i>Physica B: Condensed Matter</i> , 2003, 340-342, 1069-1073.	2.7	17
26	Thermo-mechanical design and characterization of low dissipation micro-hotplates operated above 500Å°C. <i>Microelectronics Journal</i> , 2014, 45, 1822-1828.	2.0	17
27	Interstitial-based vacancy annealing in 4HÅ€SiC. <i>Physica B: Condensed Matter</i> , 2001, 308-310, 645-648.	2.7	16
28	Robust Contact Angle Determination for Needle-in-Drop Type Measurements. <i>ACS Omega</i> , 2019, 4, 18465-18471.	3.5	15
29	The critical impact of temperature gradients on Pt filament failure. <i>Microelectronics Reliability</i> , 2017, 78, 118-125.	1.7	13
30	Investigation of the Morphology of Porous Silicon by Rutherford Backscattering Spectrometry. <i>Materials Science Forum</i> , 1997, 248-249, 373-376.	0.3	12
31	In-situ mechanical characterization of wurtzite InAs nanowires. <i>Solid State Communications</i> , 2012, 152, 1829-1833.	1.9	11
32	Fracture analysis of silicon microprobes designed for deep-brain stimulation. <i>Microelectronic Engineering</i> , 2013, 103, 160-166.	2.4	10
33	Intrinsic Defect Complexes in Å±-SiC: the Formation of Antisite Pairs. <i>Materials Science Forum</i> , 2001, 353-356, 435-438.	0.3	9
34	A Cause for SiC/SiO <sub>2</sub> Interface States: the Site Selection of Oxygen in SiC. <i>Materials Science Forum</i> , 2003, 433-436, 535-538.	0.3	9
35	Sensitivity tuning of A 3-axial piezoresistive force sensor. <i>Microelectronic Engineering</i> , 2012, 90, 40-43.	2.4	9
36	Correlation between the luminescence and Raman peaks in quantum-confined systems. <i>Thin Solid Films</i> , 1995, 255, 241-245.	1.8	8

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37	Recombination with larger than bandgap energy at centres on the surface of silicon microstructures. Thin Solid Films, 1996, 276, 290-292.	1.8	8
38	The Search for Near Interface Oxide Traps - First-Principles Calculations on Intrinsic SiO <sub>2</sub> Defects. Materials Science Forum, 2005, 483-485, 569-572.	0.3	7
39	Detecting patchy nanoparticle assembly at the single-particle level. Nanoscale, 2017, 9, 10344-10349.	5.6	7
40	(10-10) and (11-20) Surfaces in 2H, 4H and 6H SiC. Materials Science Forum, 2000, 338-342, 365-368.	0.3	6
41	CONCEPTUAL MAPPING OF A DATABASE IN THE HUMANITIES: FIRST RESULTS OF AN EXPERIMENT WITH SOPHIA. Journal of Documentation, 1996, 52, 86-99.	1.6	5
42	Global optimization of silicon nanoclusters. Applied Surface Science, 2004, 226, 108-113.	6.1	5
43	Optimisation of low dissipation micro-hotplates - Thermo-mechanical design and characterisation. , 2013, , .		5
44	Surface recombination model of visible luminescence in porous silicon. Journal of Non-Crystalline Solids, 1998, 227-230, 1053-1057.	3.1	4
45	A semiempirical approach to hydrogen bonding networks. Application of the Cyclic Cluster Model to organic crystals. Computational and Theoretical Chemistry, 1999, 463, 169-174.	1.5	4
46	Theoretical Investigation of the Oxygen Vacancies in $\hat{\Gamma}^2$ -Ga <sub>2</sub> O <sub>3</sub> . Physica Status Solidi A, 1999, 171, R5-R6.	1.7	4
47	Atomistic simulation of the bombardment process during the BEN phase of chemical vapor deposition (CVD) of diamond. Diamond and Related Materials, 2002, 11, 513-518.	3.9	4
48	Membrane Platforms for Sensors. Procedia Engineering, 2014, 87, 871-878.	1.2	4
49	The Role of Phase Changes in TiO <sub>2</sub> /Pt/TiO <sub>2</sub> Filaments. Journal of Electronic Materials, 2018, 47, 2322-2329.	2.2	4
50	Multiphysics modelling of the fabrication and operation of a micro-pellistor device. , 2014, , .		3
51	Polygermyne: Germanium sheet polymers with efficient near-infrared luminescence. Materials Research Society Symposia Proceedings, 2001, 667, 1.	0.1	2
52	Electrical Activity of Isolated Oxygen Defects in SiC. Materials Science Forum, 2001, 353-356, 463-466.	0.3	2
53	Wedge etching by anodic oxidation and determination of shallow boron profile by ion beam analysis. Nuclear Instruments & Methods in Physics Research B, 2008, 266, 1434-1438.	1.4	1