

# Aryan Afzalian

## List of Publications by Year in descending order

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Version: 2024-02-01

20  
papers

2,284  
citations

933447

10  
h-index

1199594

12  
g-index

20  
all docs

20  
docs citations

20  
times ranked

1759  
citing authors

#	ARTICLE	IF	CITATIONS
1	Nanowire transistors without junctions. Nature Nanotechnology, 2010, 5, 225-229.	31.5	1,993
2	Ab initio perspective of ultra-scaled CMOS from 2D-material fundamentals to dynamically doped transistors. Npj 2D Materials and Applications, 2021, 5, .	7.9	38
3	Vertical Gate-All-Around Nanowire GaSb-InAs Core-Shell n-Type Tunnel FETs. Scientific Reports, 2019, 9, 202.	3.3	36
4	A new F(ast)-CMS NEGF algorithm for efficient 3D simulations of switching characteristics enhancement in constricted tunnel barrier silicon nanowire MuGFETs. Journal of Computational Electronics, 2009, 8, 287-306.	2.5	31
5	Advanced DFT-NEGF Transport Techniques for Novel 2-D Material and Device Exploration Including HfS <sub>2</sub> /WSe <sub>2</sub> van der Waals Heterojunction TFET and WTe <sub>2</sub> /WS <sub>2</sub> Metal/Semiconductor Contact. IEEE Transactions on Electron Devices, 2021, 68, 5372-5379.	3.0	24
6	Physics of Gate Modulated Resonant Tunneling (RT)-FETs: Multi-barrier MOSFET for steep slope and high on-current. Solid-State Electronics, 2011, 59, 50-61.	1.4	23
7	Computationally efficient self-consistent born approximation treatments of phonon scattering for coupled-mode space non-equilibrium Green's function. Journal of Applied Physics, 2011, 110, .	2.5	22
8	Quantum Confinement Effects in Capacitance Behavior of Multigate Silicon Nanowire MOSFETs. IEEE Nanotechnology Magazine, 2011, 10, 300-309.	2.0	20
9	A High-Performance InAs/GaSb Core-Shell Nanowire Line-Tunneling TFET: An Atomistic Mode-Space NEGF Study. IEEE Journal of the Electron Devices Society, 2019, 7, 88-99.	2.1	19
10	ATOMOS: An Atomistic Modelling Solver for dissipative DFT transport in ultra-scaled HfS <sub>2</sub> and Black phosphorus MOSFETs. , 2019, , .		15
11	InAs nanowire GAA n-MOSFETs with 12-15 nm diameter. , 2016, , .		14
12	Physics and performances of III-V nanowire broken-gap heterojunction TFETs using an efficient tight-binding mode-space NEGF model enabling million-atom nanowire simulations. Journal of Physics Condensed Matter, 2018, 30, 254002.	1.8	14
13	Discrete Random Dopant Fluctuation Impact on Nanoscale Dopant-Segregated Schottky-Barrier Nanowires. IEEE Electron Device Letters, 2012, 33, 1228-1230.	3.9	11
14	Scaling perspective for III-V broken gap nanowire TFETs: An atomistic study using a fast tight-binding mode-space NEGF model. , 2016, , .		11
15	Mode space tight binding model for ultra-fast simulations of III-V nanowire MOSFETs and heterojunction TFETs. , 2015, , .		5
16	Sn Incorporation in Ultrathin InAs Nanowires for Next-Generation Transistors Characterized by Atom Probe Tomography. ACS Applied Nano Materials, 2019, 2, 1253-1258.	5.0	3
17	Electron-phonon scattering in cold-metal contacted two-dimensional semiconductor devices. , 2021, , .		3
18	Atomistic simulation of gate-all-around GaSb/InAs nanowire TFETs using a fast full-band mode-space NEGF model. , 2016, , .		1

#	ARTICLE	IF	CITATIONS
19	On Superior Hot Carrier Robustness of Dynamically-Doped Field-Effect-Transistors. , 2022, , .		1
20	Ab-initio based electron-phonon scattering for 2D materials within the NEGF framework. , 2021, , .		0