



**Mehdi Neek-Amal, Professor of Physics, Group Leader
Shahid Rajaei Teacher Training University & University of Antwerp
Curriculum Vitae (Jul, 2021)**

EDUCATION

Institute for Studies in Fundamental Science, (IPM)	TEHRAN
Ph.D. Computational Nano-Physics, 2008	
Supervisors: Prof. Dr. M. R. Ejtehadi & Prof. Dr. H. R. Sepangi	
Sharif University of Technology	TEHRAN
M.Sc. Physics, 2005	
Supervisors: Prof. Dr. H. Rafii-Tabar & Prof. Dr. K. Esfarjani	

EXPERIENCE

Shahid Rajaei Teacher Training University	TEHRAN
Group Leader, Professor of physics, Present	
Helmholtz-Zentrum Dresden-Rossendorf	
Visiting researcher, Sept. 2018, 2019	Dresden, Germany
University of Manchester	MANCHESTER, UK
Visiting researcher, Sept. 2015, Jan. 2016, Jan. 2017, May 2017, 2019, 2020	
University of Arkansas	FAYETTEVILLE, AR, USA
Visiting Scholar, March 2014, January 2015	
University of Antwerp	ANTWERPEN, BELGIUM
Visiting researcher July-Sept 2008-2012 & 2014-2017	
University of Antwerp	ANTWERPEN, BELGIUM
Marie Curie IIF Fellowship, 2012-2014	
University of Nijmegen	NIJMEGEN, THE NETHERLANDS
Visiting researcher, Sept 2013	
Department of Physics, Institute for Studies in Fundamental Science	IPM, TEHRAN
Research Associate, PostDoc, 2008-2009	
SISSA	TRIESTE, ITALY
Visiting researcher, May-Sept 2007	

RESEARCH INTEREST IN COMPUTATIONAL MATERIAL SCIENCE

1. Nanofluidics modeling and simulation
 2. Strained membranes and dynamics of external molecules on them using large-scale simulations. Determination of thermo-mechanical properties of graphene membrane.
 3. Modeling interatomic potentials and external electric field effects on bio-membranes.
 4. Classical Monte Carlo and Quantum Monte Carlo calculations.
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COURSES TAUGHT

- College Physics I, Classical Mechanics: Enrollment ~30 undergraduates
- College Physics II, Electricity & Magnetism: Enrollment ~30 undergraduates
- Classical Thermodynamics: Enrollment ~30 undergraduate students
- Quantum Physics: Enrollment ~30 undergraduate students
- Mathematical Methods for Physics: Enrollment ~10 graduate students
- Special Topics in Condensed Matter Physics: Enrollment ~10 graduate students
- Solid State Physics: Enrollment ~10 undergraduate students
- Optics: Enrollment: Enrollment ~10 undergraduate students
- Statistical Mechanics: Enrollment ~20 graduate students
- Classical Electrodynamics: Enrollment ~10 graduate students
- Computational Nanoscience (new course): Enrollment ~15 graduates
- Computational Physics (new course): Enrollment ~10 graduates

GRADUATE STUDENTS SUPERVISED

- Hossein Jalali, Doctoral candidate, completed (Dec) 2020.
- Hossein Ghorbanfekr, Doctoral candidate, completed (June) 2019.
- Cavalcanti Holanda Rebecca, Doctoral candidate, completed 2018.
- Erfan Lotfi, Doctoral candidate, completed 2017.
- Mario Sobrino Fernandez, Doctoral candidate, completed 2016.
- Sandeep Singh Kumar, Doctoral candidate, completed 2014.
- Alireza Rajabpour, Doctoral candidate, completed 2013.
- Leila Garmabdari, Masters candidate, completed 2016.
- Hossein Jalali, Masters candidate, completed 2016.
- Sepideh Maleki, Masters candidate, completed 2013.
- Farzaneh Peymanirad, Masters candidate, completed 2015.
- Fatemeh Keshavarznasab, Masters candidate, completed 2015.
- Donya Taherkhani, Masters candidate, completed 2013.
- Leila Rajabi, Masters candidate, completed 2013.
- Abbas Sadeghi, Masters candidate, completed 2013.
- Sara Kerdegari, Masters candidate, completed 2013.
- Mohammad Jamali, Masters candidate, completed 2013.
- Sabikeh Ghasemi, Masters candidate, completed 2012.
- S. Mozghan Seied Talebi, Masters candidate, completed 2012.
- Maryam Shafiee, Masters candidate, completed 2012.
- Fatemeh Sadeghi, Masters candidate, completed 2012.
- Masoud Ghasemi, Masters candidate, completed 2009.
- ...

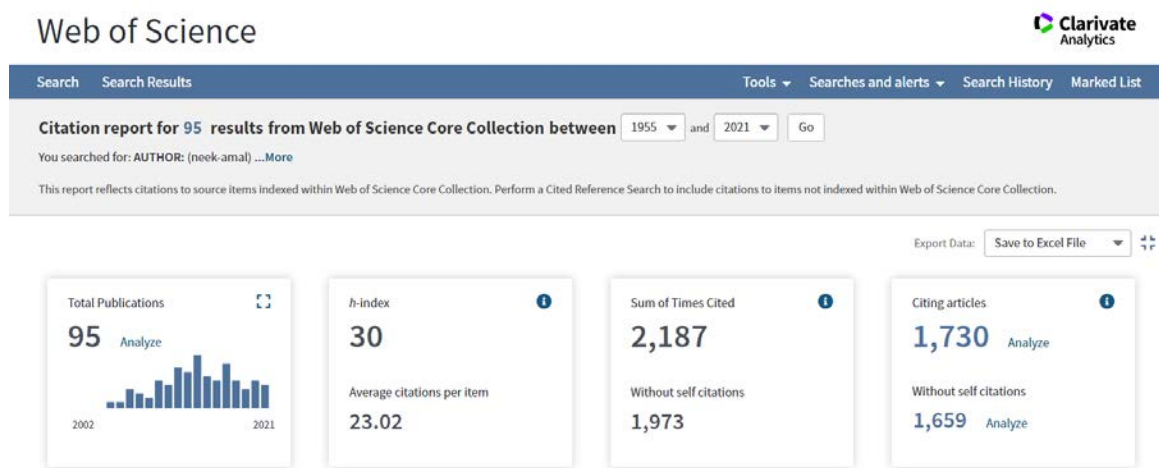
BOOKS (in Farsi)

- Graphene: From elasticity theory to Relativistic quantum mechanics, (Shahid Rajaei University Press, 2021)
- An Introduction to Computer Simulation in Physics, (Sharif University Press, 2007)
- Computer Simulation in Nano Science for High School Teachers (Nano Club Press, 2009)

H-Index:

30, ISI WEB of Knowledge. 33, Google Scholar. 30, Scopus

I-Index: 63 Google Scholar

Citations:


NATIONAL AND INTERNATIONAL FUNDINGS

- Elected member of National Elite Science and Technology Foundation, 2008-2021 (Iran) (2000,000,000 IRR).
- INSF Grants (1000,000,000 IRR)
- Marie Curie IIF, 2012-2014, Antwerp, Belgium. 120,000 Euro.
- FWO Research Fellowship, summers 2009,2010,2011,2014,2015 Antwerp (Belgium), 20000 Euro.
- INFN Research Fellowship, summer 2007, Trieste, SISSA (Italy), 16000 Euro.

HONORS, AWARDS

- SRTTU top researcher, 2011,2012,2013,2014,2015,2016,2017,2018,2019,2020 Tehran, (Iran).
- Selected and honored by Iranian Deputy of Research as a top researcher of country, 2014 (Iran).

PRESENTATIONS,

- Invited speaker: Workshop on Density Functional Theory, Isfahan, Iran (Dec. 2008).
- Invited speaker: Conference on Condensed Matter Physics, Ahvaz, Iran (5-9 July 2008).
- Poster: 32nd Symposium of Dynamical Properties of Solids, Antwerp, Belgium (17-23 Sep. 2009).

- Poster: Spring College on Computational Nano-Science, ICTP, Italy (17-28 May 2010).
- Invited speaker: 17th Annual IASBS Meeting on Condensed Matter Physics, Zanjan, Iran (May 2011).
- Poster: Graphene 2012, Brussels, Belgium (10-13 April 2012).
- Invited speaker: Conference on Graphene Nanostructures, Antwerp, Belgium (May 2013).
- Poster: Graphene Week 2013, Chemnitz, Germany (June 2013).
- Talk, APS March Meeting 2014, Denver, Colorado, USA (2014).
- Poster: Graphene Week 2014, Gutenberg, Sweden (June 2014).
- Poster: Strain engineering of graphene, Zurich, Switzerland (Jul 2014).
- Invited Talk, Iran Society of Physics, Computational Physics Workshop, University of Tehran 2019.
- Invited Speaker ICNS8, Sharif University, Nov, 2020 (online event)
- and ...

Publications in refereed journals 95 papers:
Analysis:

Web of Science Categories	records	% of 95
MATERIALS SCIENCE MULTIDISCIPLINARY	54	56.842
PHYSICS APPLIED	50	52.632
PHYSICS CONDENSED MATTER	43	45.263
CHEMISTRY PHYSICAL	14	14.737
NANOSCIENCE NANOTECHNOLOGY	12	12.632
CHEMISTRY MULTIDISCIPLINARY	7	7.368
MULTIDISCIPLINARY SCIENCES	7	7.368
PHYSICS ATOMIC MOLECULAR CHEMICAL	6	6.316
PHYSICS MULTIDISCIPLINARY	5	5.263
PHYSICS FLUIDS PLASMAS	4	4.211
PHYSICS MATHEMATICAL	4	4.211
BIOCHEMICAL RESEARCH METHODS	2	2.105
BIOCHEMISTRY MOLECULAR BIOLOGY	2	2.105
COMPUTER SCIENCE INTERDISCIPLINARY APPLICATIONS	2	2.105
CRYSTALLOGRAPHY	2	2.105
MATHEMATICAL COMPUTATIONAL BIOLOGY	2	2.105
BIOPHYSICS	1	1.053
ENERGY FUELS	1	1.053
OPTICS	1	1.053

Published Journals		
Journal	#	Impact Factor
Nature	1	42.778
Nature Nanotechnology	1	39.213
Nature Communications	4	14.919
Science Advances	1	14.136
ACS Nano	2	15.88
Nano Letters	2	11.238
Physical Review Letters	2	9.161
J Materials Chemistry A	1	11.3
Physical Review B	34	4.036
Nano Scale	2	6.895
Physical Review E	4	2.529
Carbon	2	9.594
Applied Physics Letters	6	3.791
J Applied Physics	3	2.286

Publications in refereed journals

1. N Hassani, R Rashidi, MV Milošević, M Neek-Amal, [Evaluating gas permeance through graphene nanopores and porous 2D-membranes: A generalized approach](#), **Carbon Trends** 5, 100086 (2021).
2. Renan Villarreal, Pin-Cheng Lin, Fahim Faraji, Nasim Hassani, Harsh Bana, Zviadi Zarkua, Maya N Nair, Hung-Chieh Tsai, Manuel Auge, Felix Junge, Hans C Hofsaess, Stefan De Gendt, Steven De Feyter, Steven Brems, E Harriet Åhlgren, Erik C Neyts, Lucian Covaci, François M Peeters, Mehdi Neek-Amal, Lino MC Pereira, [Breakdown of Universal Scaling for Nanometer-Sized Bubbles in Graphene](#), **Nano Letters** 2021.
3. H Mobtaker, M Azadi, N Hassani, M Neek-Amal, M Rassouli, MA Bidi [The inhibition performance of quinoa seed on corrosion behavior of carbon steel in the HCl solution; theoretical and experimental evaluations](#), **Journal of Molecular Liquids** 335, 116183 (2021).
4. L Jamilpanah, M Alihosseini, S Ghasemi, N Hassani, F Peymanirad, SM Mohseni and M. Neek-Amal [Oscillation in the electrical conductivity of a thick graphene oxide membrane](#), **Journal of Applied Physics** 129 (23), 235105, (2021).
5. M Dehdast, Z Valiollahi, M Neek-Amal, B Van Duppen, FM Peeters, M. Pourfath, [Tunable natural terahertz and mid-infrared hyperbolic plasmons in carbon phosphide](#) **Carbon** 178, 625-631 (2021).
6. I Hamid, H Jalali, FM Peeters, M Neek-Amal, [Abnormal in-plane permittivity and ferroelectricity of confined water: From sub-nanometer channels to bulk](#), **The Journal of Chemical Physics** 154 (11), 114503 (2021).

7. H Jalali, E Lotfi, R Boya, M Neek-Amal, [Abnormal Dielectric Constant of Nanoconfined Water between Graphene Layers in the Presence of Salt](#) **The Journal of Physical Chemistry B** 125 (6), 1604-1610 (2021).
8. Jothi Priyanka Thiruraman, Sidra Abbas Dar, Paul Masih Das, Nasim Hassani, Mehdi Neek-Amal, Ashok Keerthi, Marija Drndić, Boya Radha, [Gas flow through atomic-scale apertures](#) **Science Advances**, 6, eabc7927 (2020).
9. S Shekarforoush, H Jalali, M Yagmurcukardes, MV Milošević, and M. Neek-Amal, [Optoelectronic properties of confined water in angstrom-scale slits](#) **Physical Review B** 102 (23), 235406 (2020).
10. Hossein Jalali, Farhad Khoeini, M. Neek-Amal, and F. M. Peeters, [Hydration effects and negative dielectric constant of nano-confined water between cation intercalated MX-enes](#), **Nanoscale** (2020).
11. H Jalali, H Ghorbanfekr, I Hamid, M Neek-Amal, R Rashidi, FM Peeters, [Out-of-plane permittivity of confined water](#), **Physical Review E** 102 (2), 022803 (2020).
12. S Ghasemi, M Alihosseini, F Peymanirad, H Jalali, SA Ketabi, F Khoeini, M. Neek-Amal, [Electronic, dielectric, and optical properties of two-dimensional and bulk ice: A multiscale simulation study](#), **Physical Review B** 101 (18), 184202 (2020).
13. A Bafekry, M Neek-Amal, FM Peeters, [Two-dimensional graphitic carbon nitrides: Strain-tunable ferromagnetic ordering](#), **Physical Review B** 101 (16), 165407 (2020).
14. A Bafekry, M Neek-Amal, [Tuning the electronic properties of graphene–graphitic carbon nitride heterostructures and heterojunctions by using an electric field](#). **Physical Review B** 101 (8), 085417 (2020).
15. M Mohammadi, F Yousefi, M Neek-Amal, F Khoeini, [Mechanical properties of twin graphene subjected to uniaxial stress by molecular dynamic simulation](#), **Materials Research Express** 6 (10), 105611 (2019).
16. Yang Su, Eric Prestat, Chengyi Hu, Vinod Kumar Puthiyapura, Mehdi Neek-Amal,* Hui Xiao, Kun Huang, Vasyi G. Kravets, Sarah J. Haigh, Christopher Hardacre, Francois M. Peeters, and Rahul R. Nair, [Self-Limiting Growth of Two-Dimensional Palladium between 2 Graphene Oxide Layers](#), **Nano Letters** 19, 4678 (2019).
17. M Neek-Amal, R Rashidi, RR Nair, D Neilson, FM Peeters, [Electric-field-induced emergent electrical connectivity in graphene oxide](#), **Physical Review B** 99 (11), 115425 (2019).
18. R. Deaquino, H. Ghorbanfekr, M. Neek-Amal, FM Peeters, [Ionized water confined in graphene nanochannels](#), **Physical Chemistry Chemical Physics** 21, 9285 (2019).
19. M Neek-Amal, A Lohrasebi, M Mousaei, F Shayeganfar, B Radha, FM Peeters, [Fast water flow through graphene nanocapillaries: A continuum model approach involving the microscopic structure of confined water](#), **Applied Physics Letters** 113, 083101 (2018).
20. H Ghorbanfekr-Kalashami, M Neek-Amal, FM Peeters, [Slippage dynamics of confined water in graphene oxide capillaries](#), **Physical Review Materials** 2, 074004 (2018).

21. KG Zhou, KS Vasu, CT Cherian, M Neek-Amal, Jason Chentian Zhang, H Ghorbanfekr-Kalashami, K Huang, OP Marshall, VG Kravets, J Abraham, Y Su, AN Grigorenko, Andrew Pratt, AK Geim, FM Peeters, KS Novoselov, RR Nair, [Electrically controlled water permeation through graphene oxide membranes](#), **Nature**, 559, 236 (2018).
22. BRH de Aquino, H Ghorbanfekr-Kalashami, M Neek-Amal, FM Peeters, [Electrostrictive behavior of confined water subjected to GPa pressure](#), **Physical Review B** 97 (14), 144111 (2018).
23. S Hu, K Gopinadhan, A Rakowski, M Neek-Amal, T Heine, IV Grigorieva, SJ Haigh, FM Peeters, AK Geim, M. Lozada-Hidalgo, [Transport of hydrogen isotopes through interlayer spacing in van der Waals crystals](#), **Nature Nanotechnology**, 13, 468 (2018).
24. S Dabaghmanesh, M Neek-Amal, B Partoens, EC Neyts, [The formation of Cr₂O₃ nanoclusters over graphene sheet and carbon nanotubes](#), **Chemical Physics Letters** 687, 188-193 (2017).
25. BRH Aquino, M Neek-Amal, MV Milošević, [Unconventional two-dimensional vibrations of a decorated carbon nanotube under electric field: linking actuation to advanced sensing ability](#), **Scientific reports** 7 (1), 13481 (2017)
26. H Ghorbanfekr-Kalashami, FM Peeters, KS Novoselov, M Neek-Amal, [Spatial design and control of graphene flake motion](#), **Physical Review B** 96 (6), 060101 (2017).
27. Erfan Lotfi, M Neek-Amal, [Temperature distribution in graphene doped with nitrogen and graphene with grain boundary](#) **Journal of Molecular Graphics and Modelling** 74, 100 (2017).
28. H Ghorbanfekr-Kalashami, KS Vasu, RR Nair, François M Peeters, M Neek-Amal, [Dependence of the shape of graphene nanobubbles on trapped substance](#), **Nature Communications** 8, 15844 (2017).
29. F Shayeganfar, KS Vasu, RR Nair, FM Peeters, M Neek-Amal, [Monolayer alkali and transition-metal monoxides: MgO, CaO, MnO, and NiO](#), **Physical Review B** 95 (14), 144109 (2017).
30. V Satarifard, M Mousaei, F Hadadi, J Dix, MS Fernandez, P Carbone, J. Beheshtian, F. M. Peeters, and M. Neek-Amal, [Reversible structural transition in nanoconfined ice](#), **Physical Review B** 95 (6), 064105 (2017).
31. F Peymanirad, SK Singh, H Ghorbanfekr-Kalashami, KS Novoselov, F. M. Peeters, and M. Neek-Amal, [Thermal activated rotation of graphene flake on graphene](#), **2D Materials** 4 (2), 025015 (2017).
32. F Shayeganfar, J Beheshtiyani, M Neek-Amal, R Shahsavari, [Electro- and opto-mutable properties of MgO nanoclusters adsorbed on mono- and double-layer graphene](#), **Nanoscale** 9 (12), 4205-4218 (2017).
33. GR Berdiyrov, M Neek-Amal, IA Hussein, ME Madjet, FM Peeters, [Large CO₂ uptake on a monolayer of CaO](#), **Journal of Materials Chemistry A** (2017).
34. KH Michel, M Neek-Amal, FM Peeters, [Static flexural modes and piezoelectricity in 2D and layered crystals](#), **physica status solidi (b)** 253 (12), 2311-2315 (2016).

35. ML Ackerman, P Kumar, M Neek-Amal, PM Thibado, FM Peeters, Surendra Singh, [Anomalous Dynamical Behavior of Freestanding Graphene Membranes](#), **Physical Review Letters** 117, 126801 (2016).
36. MS Fernández, FM Peeters, M Neek-Amal, [Electric-field-induced structural changes in water confined between two graphene layers](#), **Physical Review B** 94 (4), 045436 (2016).
37. H Ghorbanfekr-Kalashami, M Neek-Amal, FM Peeters, [N-doped graphene: Polarization effects and structural properties](#), **Physical Review B** 93 (17), 174112 (2016).
38. K. S. Vasu, E. Prestat, J. Abraham, J. Dix, R. J. Kashtiban, J. Beheshtian, J. Sloan, P. Carbone, M. Neek-Amal, S. J. Haigh, A. K. Geim, and R. R. Nair, [Van der Waals pressure and its effect on trapped interlayer molecules](#), **Nature Communications** (7) 12168 (2016).
39. M. Neek-Amal, F. M. Peeters, I. Irina V. Grigorieva, and Andre K. Geim, [Commensurability effects in viscosity of nanoconfined water](#), **ACS Nano** 10 3685, (2016).
40. M Neek-Amal, FM Peeters, [Partially hydrogenated and fluorinated graphene: Structure, roughness, and negative thermal expansion](#), **Physical Review B** 92 (15), 155430 (2015).
41. F. Peymanirad, M. Neek-Amal, J. Beheshtian, F.M. Peeters, [Graphene-silicene bilayer: A nanocapacitor with permanent dipole and piezoelectricity effect](#), **Physical Review B** 92 (15), 155113 (2015).
42. M.S.F Mario, M. Neek-Amal, F.M. Peeters, [AA-stacked bilayer square ice between graphene layers](#), **Physical Review B** 92 (24), 245428 (2015).
43. E Lotfi, M Neek-Amal, M Elahi, [Molecular dynamics simulation of temperature profile in partially hydrogenated graphene and graphene with grain boundary](#), **Journal of Molecular Graphics and Modelling** 62, 38-42 (2015).
44. S.K. Singh, M. Neek-Amal, et al, [Rippling, buckling and melting of single- and multi-layer MoS₂](#), **Physical Review B** 91 014101 (2015).
45. A. Sadeghi, M. Neek-Amal, G. R. Berdiyrov, and F. M. Peeters, [Diffusion of fluorine on and between graphene layers](#), **Physical Review B** 91 014304 (2015).
46. J. K. Schoelz, P. Xu, V. Meunier, M Neek-Amal et al, [Graphene ripples as a realization of a two-dimensional Ising Model: A scanning tunneling microscope study](#), **Physical Review B** 91 045413 (2015).
47. Seyedeh Mozghan Seyed-Talebi, M Neek-Amal, [The different adsorption mechanism of methane molecule onto a boron nitride and a graphene flakes](#), **Journal of Applied Physics**, 116, 153507 (2014).
48. M. Neek-Amal, P. Xu et al; [Membrane amplitude and triaxial stress in twisted bilayer graphene deciphered using first-principles directed elasticity theory and scanning tunneling microscopy](#), **Physical Review B** 90, 064101 (2014).
49. M. Neek-Amal, P. Xu et al; [Thermal mirror buckling in freestanding graphene locally controlled by scanning tunnelling microscopy](#), **Nature Communications** 5, 4962 (2014).

50. P Xu, D Qi, JK Schoelz, J Thompson, PM Thibado, VD Wheeler, LO Nyakiti, RL Myers-Ward, CR Eddy Jr, DK Gaskill, M Neek-Amal, FM Peeters et al, [Multilayer graphene, Moiré patterns, grain boundaries and defects identified by scanning tunneling microscopy on the m-plane, non-polar surface of SiC](#), **Carbon** 80 75-81 (2014).
51. M. Neek-Amal and F. M. Peeters, [Graphene on hexagonal lattice substrate](#), **Applied Physics Letters** 104, 17, 173106 (2014).
52. M. Neek-Amal and F. M. Peeters, [Spatial dependent van der Waals energy between graphene and boron-nitride](#), **Applied Physics Letters** 104, 041909 (2014).
53. P. Xu, L. Dong , M. Neek-Amal, M. L. Ackerman, J. Yu, S. D. Barber, J. K. Schoelz, D. Qi, F. Xu, Paul M. Thibado, and F. M. Peeters, Self-Organized Platinum , **ACS Nano** 8 2697 (2014).
54. A. Lohrasebi, M. Amini, and M. Neek-Amal, [The effects of temperature and vacancies on dynamics of crack in graphene sheet](#), **AIP Advances** 4 (5), 057113 (2014).
55. SK. Singh, M. Neek-Amal, and F. M. Peeters, [Electronic properties of graphene nano-flakes: Energy gap, permanent dipole, termination effect, and Raman spectroscopy](#), **J. Chem. Phys.** 140, 074304, (2014).
56. GR. Berdiyrov, M. Neek-Amal, ACT. Van Duin, and F. M. Peeters, [Stabilized silicene within bilayer graphene: A proposal based on molecular dynamics and density-functional tight-binding calculations](#), **Phys. Rev. B** 89, 024107 (2014).
57. SK. Singh, S. Costamagna, M. Neek-Amal, and F. M. Peeters, [Melting of Partially Fluorinated Graphene: From Detachment of Fluorine Atoms to Large Defects and Random Coils](#), **J. Phys. Chem. C** 118,4460 (2014).
58. P. Xu, M. Neek-Amal, S. D. Barber, M. L. Ackerman, J. K. Schoelz, P. M. Thibado, A. Sadeghi, and F. M. Peeters, [Unusual ultra-low-frequency fluctuations in freestanding graphene](#), **Nature Communications** 5, 3720 (2014).
59. M. Neek-Amal, A. Sadeghi, GR. Berdiyrov, F. M. Peeters, [Realization of free-standing silicene using bilayer graphene](#), **Applied Physics Letters** 103 (2), 261904 (2013).
60. SK. Singh, SG. Srinivisan, M. Neek-Amal, S. Costamagna, ACT. Van Duin, and F. M. Peeters, [Thermal properties of fluorinated graphene](#), **Phys. Rev. B** 87, 104114 (2013).
61. M. Seiedtalebi, J. Beheshtian, and M. Neek-Amal, [Doping effect on the adsorption of NH₃ molecule onto graphene quantum dot: From the physisorption to the chemisorption](#), **J. Applied. Physics** 12, 114 (2013).
62. S. Sandeep, M. Neek-Amal, S. Costamagna and F. M. Peeters, [Thermomechanical properties of BN sheet](#), **Phys. Rev. B** 87, 184106 (2013).
63. S. Sandeep, M. Neek-Amal, and F. M. Peeters, [Melting of graphene clusters](#), **Phys. Rev. B** 87, 134103 (2013).
- 64.

65. M. Neek-Amal, J. Beheshtian, F. Shayganfar, S. Singh, J. H. Los, and F. M. Peeters, [Spiral Graphone and fluorographene](#), **Phys. Rev. B** 87, 075448 (2013).
66. S. Sandeep, M. Neek-Amal, S. Costamagna and F. M. Peeters, [Thermomechanical properties of Fluorographene](#), **Phys. Rev. B** 87, 104114 (2013) .
67. M. Neek-Amal, J. Beheshtian, A. Sadeghi, K. H. Michele and F. M. Peeters, [Boron nitride monolayer: a strain tunable nanosensor](#), **J. Phys. Chem. C** 117 (25), 13261 (2013).
68. J. Beheshtian, A. Sadeghi, M. Neek-Amal, K. H. Michel, and F. M. Peeters, [Induced polarization and electronic properties of carbon-doped boron nitride nanoribbons](#), **Phys. Rev. B** 86, 195433 (2013).
69. A. Lajevardipour and M. Neek-Amal, and F. M. Peeters, [Compressive versus tensile strain in garphene nanoribbons: a valance force filed](#), **J. Phys.: Condens. Matter** 25,1236 (2012).
70. M. Neek-Amal and F. M. Peeters, [Buckled graphene with grain boundary](#), **Applied Physics Letters** 84, 1636 (2012).
71. S. Motahari, F. Shayganfar and M. Neek-Amal, [Van der Waals energy surface of carbon nanotube sheets](#), **Solid State Communications** 44,1236 (2012).
72. M. Neek-Amal and F. M. Peeters, [Strain-engineered gr Strain-engineered graphene through a nanostructured substrate. I. Deformations](#), **Phys. Rev. B** 85 195446 (2012).
73. M. Neek-Amal and F. M. Peeters, [Strain-engineered graphene through a nanostructured substrate. I. Pseudo-magnetic fields](#), **Phys. Rev. B** 85 195445 (2012).
74. F. Shayganfar , M. Neek-Amal, [Methane molecule over the defected and rippled graphene sheet](#), **Solid State Communications**, 152, 1493 (2012).
75. S. Costamagna, M. Neek-Amal, J. H. Los and F. M. Peeters, [Thermal rippling behavior of graphane](#), **Phys. Rev. B (Rapid Communications)** 86, 041408 (2012).
76. M. Neek-Amal, L. Covaci and F. M. Peeters, [Nanoengineered nonuniform strain in graphene using nanopillars](#), **Phys. Rev. B (Rapid Communications)** 86, 041405 (2012).
77. M. Neek-Amal and F. M. Peeters, [Lattice thermal properties of graphane: Thermal contraction, roughness, and heat capacity](#), **Phys. Rev. B** 83, 235437 (2011).
78. M. Neek-Amal and F. M. Peeters, [Buckled circular monolayer graphene: a graphene nano bowl](#), **J. Phys.: Condens. Matter** 23, 045002 (2011).
79. M. Neek-Amal, [Comments on 'Irreversibility in response to forces acting on graphene sheet'](#) **Phys. Rev. Lett**, 106, 209701 (2011).
80. A. Lohrasebi, M. Neek-Amal and M. R. Ejtehadi, [Directed motion of C60 on a graphene sheet subjected to a temperature gradient](#), **Phys. Rev. E** 83, 042601 (2011).
81. M. Neek-Amal and F. M. Peeters, [Graphene nano-ribbons under axial stress](#), **Phys. Rev. B** 82, 235421 (2010).
82. M. Neek-Amal and F. M. Peeters, [Nanoindentation of circular bilayer graphene](#), **Phys. Rev. B** 81, 235421 (2010).

83. M. Neek-Amal and F. M. Peeters, [Linear reduction of stiffness and vibrating frequencies in defected circular monolayer graphene](#), **Phys. Rev. B** 81, 235437 (2010).
 84. M. Neek-Amal and F. M. Peeters, [Defected graphene nanoribbons under axial compression](#), **Applied Physics Letters** 97, 153118 (2010).
 85. M. Neek-Amal, N. Abedpour, S. N. Rsouli, A. Naji, M. R. Ejtehad, [Diffusive motion of C60 on a graphene sheet](#), **Phys. Rev. E** 82, 051605 (2010).
 86. M. Neek-Amal and A. Lajevardipour, [Stochastic motion of noble gases over graphene sheet](#), **Comp. Mater. Sci.** 49, 839 (2010).
 87. M. Neek-Amal, A. Lajevardipour and H. R. Sepangi, [Electric field effects on Nano-Scale bio-membrane spherical cells](#), **Physica A** 388, 120 (2009); **Biophysical Journal** 100 (3) 326a (2011).
 88. M. Neek-Amal, R. Asgari and M. R. Rahimi-Tabar, [The Formation of Atomic Nanoclusters On The Graphene Sheets](#), **Nanotechnology** 20, 135602 (2009).
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