

List of Publications

Pankaj Mishra, Ph.D.

45. Vhaskar Chakraborty, **Pankaj Mishra**, Mingfeng Qiu and Zhiwei Peng
Dispersion of active particles in oscillatory Poiseuille flow
J. Fluid Mech. **1034**, A59 (2026).
DOI: 10.1017/jfm.2026.11543
44. Moushila Bayen, Rohit Biswas and **Pankaj Mishra**
Tunable freezing in 2D PMMA colloids: Density functional theory of combined Yukawa–Hamaker interactions
Physica A **694**, 131578 (2026).
DOI: 10.1016/j.physa.2026.131578
43. Moushila Bayen, Anupam Kumar and **Pankaj Mishra**
Freezing transitions in colloidal nanoparticles: interplay of dispersive and electrostatic interactions in confined two-dimensional systems
Fluid Phase Equilibria **596**, 114448 (2025)
DOI: 10.1016/j.fluid.2025.114448
42. Pallabi Kundu and **Pankaj Mishra**
Freezing transitions in colloidal nanoparticles: interplay of dispersive and electrostatic interactions in confined two-dimensional systems
Fluid Phase Equilibria **596**, 114448 (2025)
DOI: 10.1016/j.fluid.2025.114448
41. Biplab Kumar Mandal, Moushila Bayen, Anupam Kumar and **Pankaj Mishra**
Pair correlations and freezing transitions in a two-dimensional system of tilted axially symmetric quadrupoles
Molecular Physics (2024)
DOI: 10.1080/00268976.2024.2394619
40. Sahire Azam Ansari, Pallabi Kundu and **Pankaj Mishra**
Density functional theory of freezing transition in a binary mixture of spheres and soft-ellipsoids
Liquid Crystals **51**, 1909-1925 (2024)
DOI: 10.1080/02678292.2024.2369956
39. Pallabi Kundu, Sahire Azam Ansari and **Pankaj Mishra**
Effect of the varying repulsive core of Gay-Berne pair potential on the structure and freezing transition in a two-dimensional system of soft ellipses

Liquid Crystals **50**, 2128-2143 (2023)
DOI:10.1080/02678292.2023.2256984

38. Sahire Azam Ansary, Shikha Dwivedi and **Pankaj Mishra**
Pair correlation functions and stability of nematic in a system of Gay-Berne ellipsoids doped with spherical colloids
Journal of Molecular Liquids **380**, 121795(2023)
DOI: 10.1016/j.molliq.2023.121795
37. Anupam Kumar and **Pankaj Mishra**
Structures and freezing transitions in two-dimensional colloids with tunable repulsive interactions
Fluid Phase Equilibria **568**, 113726(2023)
DOI: 10.1016/j.fluid.2023.113726
36. Pallabi Kundu, Jayashree Saha and **Pankaj Mishra**
Long-range decay of pair correlations and nematic ordering in a two-dimensional system of Gay-Berne mesogens
Fluid Phase Equilibria **549**, 113224 (2021)
DOI:10.1016/j.fluid.2021.113224
35. Biplab Kumar Mondal and **Pankaj Mishra**
Pair-correlation functions and freezing transition in a 2D binary mixture of ultrasoft colloidal particles interacting via Hertzian potential
Fluid Phase Equilibria **546**, 113125 (2021)
DOI:10.1016/j.fluid.2021.113125
34. Biplab Kumar Mondal and **Pankaj Mishra**
Density functional theory of fluid-solid phase transition in a two-dimensional system of superparamagnetic colloids in tilted magnetic field
Journal of Molecular Liquids **320**, 114416 (2020)
DOI: 10.1016/j.molliq.2020.114416
33. Biplab Kumar Mondal and **Pankaj Mishra**
Pair correlation function and freezing transitions in a two-dimensional system of model ultrasoft colloids
Molecular Physics **118** (2020)
DOI: 10.1080/00268976.2019.1706774
32. Pallabi Kundu, **Pankaj Mishra**, Anubha Jaiswal and Jokhan Ram
Structures and phase transition in a two-dimensional system of Gay-Berne molecules
Journal of Molecular Liquids **296**, 111769 (2019).

31. Anupam Kumar, Biplab Kumar Mandal, Sanat Kumar and **Pankaj Mishra**
Freezing transitions in a system of two-dimensional octupolar multipoles
 Eur. Phys. J. E **40**:80 (2017)
 DOI: 10.1140/epje/i2017-11572-x
30. Anupam Kumar, Sanat Kumar, Biplab Kumar Mandal and **Pankaj Mishra**
Fluid-triangular solid phase transitions in a system of two-dimensional nematic quadrupoles
 Molecular Physics **115**, 3011-3023 (2017)
 DOI: 10.1080/00268976.2017.1342008
29. Shikha Dwivedi and **Pankaj Mishra**
Density functional theory of freezing of a system of highly elongated ellipsoidal oligomer solutions
 Phase Transitions **90**, 523-537 (2016).
28. Shikha Dwivedi, **Pankaj Mishra**, R. C. Singh, J. Ram
Tunable attractive interaction and the phase diagram of a system of Gay-Berne ellipsoids: A density functional approach
 Journal of Molecular Liquids **222**, 1139-1147 (2016).
27. Mohd Azam, Vineet Kumar Rai and **Pankaj Mishra**
Enhanced frequency upconversion and non-colour tunability in Er^{3+} - Yb^{3+} codoped TeO_2 - WO_3 - Pb_3O_4 glasses
 Journal of Materials Science: Materials in Electronics **27**, 12633-12641 (2016).
26. **Pankaj Mishra**, Manjori Mukherjee and Sanat Kumar,
Phase diagram of two-dimensional binary Yukawa mixtures
 Molecular Physics **114**, 741-756(2016).
25. Sanat Kumar, Manjori Mukherjee and **Pankaj Mishra**,
Cluster formation in binary charge-stabilized colloidal suspensions confined to a two-dimensional plane
 Phase Transitions **89**, 863-884(2016)
24. Shikha Dwivedi, **Pankaj Mishra** and Jokhan Ram,
Density functional theory of freezing of a system of conjugated oligomers parameterised via Gay-Berne potential
 Liquid Crystals, **43**, 195-207 (2016).
23. Manjori Mukherjee, **Pankaj Mishra** and Hartmut Löwen,
Density functional theory of freezing for binary mixtures of 2D superparamagnetic colloids
 J. Phys.: Condens. Matter **26** 46101-46109 (2014).

22. Manjori Mukherjee, Sanat Kumar and **Pankaj Mishra**,
Clustering in binary mixtures of axial multipoles confined to a two-dimensional plane
Physica A **416**, 340-353(2014).
21. Sanat Kumar, Manjori Mukherjee and **Pankaj Mishra**,
Structures and partial clustering in binary mixtures of colloidal particles interacting via repulsive power law potentials
Journal of Molecular Liquids **197**, 84-92 (2014).
20. Vineet Kumar Rai and **Pankaj Mishra**,
Multicolor visible light upconversion emission in $Tm^{3+}-Er^{3+}$ codoped TeO_2-PbO glass under near-infrared laser radiation
J. Opt. Soc. Am. B **31**, 1041-1045 (2014).
19. **Pankaj Mishra**, Swarn L Singh, Jokhan Ram and Yashwant Singh,
Pair correlation functions and a free-energy functional for the nematic phase
J. Chem. Phys. **127**, 044905 (2007)
18. **Pankaj Mishra** and Yashwant Singh,
Pair correlation functions in nematic: free energy functional and isotropic nematic transition
Phys. Rev. Lett. **97**, 177801 (2006).
17. **Pankaj Mishra** and Jokhan Ram
Effect of shape anisotropy on the phase diagram of the Gay-Berne fluid
Eur. Phys. J. E. **17**, 345 (2005).
16. **Pankaj Mishra**, Jokhan Ram and Yashwant Singh,
Freezing transitions in a fluid of long elongated molecules
J. Phys. Condens. Matter **16**, 1695 (2004).

SCOPUS/Conference Proceedings/other publications:

15. Moushila Bayen¹, Anupam Kumar, **Pankaj Mishra**
Simulation of Colloidal Dispersion of Spherical Particles Interacting Via a Linear Combination of Dispersive and Screened Yukawa Potential
Journal of Physics: Conference Series **2663**, 012036 (2023). (SCOPUS)
14. K Nunia, M Bayen, S A Ansary, A Kumar, **Pankaj Mishra**
Static and Dynamic Properties of SPC/E Water Model
Journal of Physics: Conference Series **2663**, 012037 (2023). (SCOPUS)
13. Sahire Azam Ansary, and **Pankaj Mishra**
Integral equation theory of biaxial liquid crystalline system
AIP Conference Proceedings **2352**, 020083(2021). (SCOPUS)

12. Pallabi Kundu, and **Pankaj Mishra**
Simulation of Gay-Berne liquid crystal molecules confined to a plane
AIP Conference Proceedings **2220**, 130016 (2020). **(SCOPUS)**
11. Anupam Kumar, Biplab Kumar Mandal and **Pankaj Mishra**
Morphology of Colloidal Particles Dispersed in Nematic Solvent
Journal of Physics: Conference Series **765**, 012022 (2016). **(SCOPUS)**
10. Biplab Kumar Mandal, Anupam Kumar and **Pankaj Mishra**
Integral Equation theory of a system of nematic quadrupoles
Journal of Physics: Conference Series **765** 012024 (2016). **(SCOPUS)**
9. Shikha Dwivedi, Anupam Kumar , S.N.S.Yadav , and **Pankaj Mishra**
Phase transition in conjugated oligomers suspended in chloroform,
AIP Conference Proceedings **1675**, 020042 (2015). **(SCOPUS)**
8. Manjori Mukherjee and **Pankaj Mishra**,
Self Assembly of Complex Molecular System Interacting Via Dipolar Interaction,
Proceedings International Conference on Technological Innovations through Modern Engineering Sciences (TIMES-2013), Alwar, Rajasthan, Feb 23-24, ISBN 978-93- 81771 pp10-12 (2013).
(Conf. Proceedings)
7. Manjori Mukherjee, Sanat Kumar and **Pankaj Mishra**,
A Review of advancement in the study of complex molecular system,
Proceedings of Advances in Lasers and Spectroscopy (ALS-2012), at ISM Dhanbad, Nov.1-3,
ISBN: 978-81-8424-806-728i, pp262-266(2012). **(Conf. Proceedings)**
6. **Pankaj Mishra**
Liquid crstals: Recent technological advancements and applications,
Proceedings of the National workshop on Advancement of Nanomaterials and its applications-
D. A. V. College, Kanpur Feb. 09-11, ISBN 978-81-921665-3-7, pp139-153 (2012). **(Conf. Proceedings)**
5. Manjori Mukherjee and **Pankaj Mishra**
Structure of two-dimensional binary mixture of colloidal particles interacting via quadrupole-quadrupole interaction potential,
International journal of Physics and Mathematical Science, **2**(S. No. S1), 50 (2012). **(Conf. Proceedings)**
4. **Pankaj Mishra**,
Freezing in binary mixtures of two-dimensional super paramagnetic colloids,
Proceedings of the National conference on Advances in Polymer Science and Technology (APST-2010) 22-24 October, NIT Hamirpur, India, 236 (2010). **(Conf. Proceedings)**

3. Sanat Kumar, Anupam Kumar and **Pankaj Mishra**,
Clustering in a binary mixture of charge-stabilized colloidal system,
IEC International Journal of Technology and Management, **2**, 13-16(2017)

Book/Book Chapter:

2. **Pankaj Mishra** and Vineet Kumar Rai,
Doped polymers, polymer nano-fibres and density functional theory,
Nanotechnology in Polymers, Studium Press LLC, USA, Chapter 13, p269-299 (2012). [Book Chapter]
1. Vineet Kumar Rai, **Pankaj Mishra** and Kaushal Kumar,
Proceedings of National conference on Lasers and Spectroscopy (ALS-2012), Allied Publishers
New Delhi (2012)