SHORT PROFILE

Name: DR. PRABIR KUMAR MUKHERJEE

E-mail : pkmuk1966@gmail.com

Present Position: Associate Professor of Physics, Government College of Engineering and Textile Technology, Serampore, India

Educational Qualifications: M.Sc., Ph.D., D.Sc.

Teaching Experience: 17 years

Research Experience: 25 years
01.01.92 -17.11.96: Junior and Senior Research Fellow, University of Calcutta
18.11.96 – 31.3.98 : Research Associate, Saha Institute of Nuclear Physics, India.
02.04.98 – 03.03.99 : Post-Doctoral Fellow, Bar-Ilan University, Israel.
01.06.99 – 30.11.99 : Humboldt Fellow, Bayreuth University, Germany.
01.09.01 – 31.08.02 : Humboldt Fellow, Bayreuth University, Germany.
01.03.04 – 31.08.04 : Humboldt Fellow (re invited), Stuttgart University, Germany.
01.09.06 – 28.02.07 : Guest Scientist, Max Planck Institute for the Physics of Complex Systems, Germany.

Research Interest:

Research Interest:
Theory of Soft Condensed Matter Physics
Theory of phase transitions and critical phenomena in liquid crystals
Hydrodynamic theory of Liquid Crystals and Rotator Phases of alkanes
Theory Phase transitions and critical phenomena in Rotator phases of alkanes
Effect Nanoparticles in Liquid Crystals and Rotator phase transitions of alkanes
Theory of Surface Freezing
Physics of biological systems

Reviewing of manuscripts:
I am a Reviewer for several international and one national journal which includes:

Scientific Reports (Nature publishing group)
Soft Matter (RSC)
Langmuir (ACS)
Macromolecules (ACS)
Physical Chemistry Chemical Physics (RSC)
Journal of Chemical Physics. (AIP)
Journal of Physical Chemistry B.(ACS)
Physical Review E (APS)
Journal of Physics: Condensed Matter. (Taylor & Francis)

Physica A. (Elsevier)
Nanotechnology
Chemical Physics (Elsevier)
Chemical Physics Letters (Elsevier)
Journal of Molecular Liquids (Elsevier)
Phase Transitions (Taylor & Francis)
Liquid Crystals (Taylor & Francis)
Molecular Crystals and Liquid Crystals (Taylor & Francis)
Physica Scripta (IOP)
Crystal Research and Technology (Willey)
Colloid and Polymer Science (Wiley)
Journal of Material Chemistry Physics. (Elsevier)
ScienceOpen
International Journal of Modern Physics B (World Scientific)
Advances in Condensed Matter Physics. (Hindwai)
International Journal of Thermophysics
Engineering
Journal of Optoelectronics and Advanced Materials
Science International Journal
Journal of Petroleum and Gas Exploration Research
African Journal of Pure and Applied Chemistry
International Research Journal of Engineering Science, Technology and Innovation
Pramana Journal of Physics (IAS)

Editorial Board Member of the International Journal:

The Scientific World Journal (Condensed Matter Physics)

Research Guidance:

(A) **Ph.D. Guidance**: 01

(B) **Project works completed under my guidance**: 12 (B.Sc.+M.Sc.)

International Collaborations:
I have worked with various scientists in abroad and India. Some of my collaborators are:

Prof. Helmut R. Brand, Bayreuth University, Germany
Prof. Harald Pleiner, Max Planck Institute for Polymer Research, Germany
Prof. Sylwester J. Rzoska, Silesian University, Poland
Prof. Aleksandra Drozd-Rzoska, Silesian University, Poland
Prof. Frank Gisselmann, Stuttgart University, Germany
Prof. Jan P. F. Lagerwall, Stuttgart University, Germany
Prof. Moshe Deutsch, Bar-Ilan University, Israel
Prof. Joydeep Battacharya, Goldsmith Collge, London, UK
Prof. Josep Ll Tamarit, University of Polytechnique, Spain

Prof. S. Krishna Prasad, Soft Matter Centre, Bangalore
Prof. Amit Kumar Chattopadhyay, Aston University, UK

Awards and Scholarship :
Selected for the Award of Alexander von Humboldt Fellowship, Germany : 1998. 2004.
Selected for the Guest Scientist Position at Max Planck Institute for the Physics of Complex systems, Germany : 2006.
Selected for the Post-doctoral Fellowship at Bar-Ilan University, Israel, 1998; Machester University, UK, 1999; Electrotechnical Laboratory, Japan 1999; University of Chile, Chile, 1998; University of Mexico, Mexico, Institute of Biomolecular Enginerring, South Korea.
Selected as an Associate of the Indian Academy of Sciences, Bangalore : 1997-2001.
Qualified for the joint CSIR-UGC National Test for JRF and Eligibility for Lectureship : 1991.
National Scholarship, Govt. of India : 1989-1990
Nominated and included my name in the exclusive directory of Marquis Who's Who in Science and Engineering : 2006-2007, 2008-2009, 2010-2011.
Nominated and included my name in the exclusive directory of Marquis Who's Who in World: 2008-2009, 2009-2010,2010-2011.
Selected for the award of "Cambridge Certificate" for Outstanding Educational Achievement by the International Biographical Centre, Cambridge, U.K : 2011.

Member of Honorary Societies :
Life Member of Indian Physics Association.
Life Member of Indian Association for the Cultivation of Science.
Life Member of Indian Liquid Crystal Society.
Free Student Member of American Physical Society (1995-1996).
Member of Indian Science Congress (1998-1999).

Symposia/Workshops/Schools Attended (National and International): 25

List of Publications

Book chapter: Majumdar, T. P., Lahiri, T. and **Mukherjee, P.K. "Chapter 6: "Effect of polymer network in polymer dispersed ferroelectric liquid crystals" on the edited book "**Liquid Crystalline Polymers: Processing and Applications" by Thakur, V. K.; and Kessler, M. R., Springer, 2015 (ISBN: 978-3-319-20269-3) .

Book chapter: Rahman M. and Mukherjee, P.K. "Chapter 10: "Processing of Ferroelectric Polymer Composites" on Hybrid Polymer Composite Materials: Volume 2: Processing" by Thakur, V. K.;Thakur, M. J.; Pappu, A.; and Jones, G. Elsevier, 2017 (ISBN:) (in press) .

Book: Mukherjee, P.K., A. Drozd-Rzoska, S. J. Rzoska **"Dielectric Effect in the Isotropic phase of Liquid Crystal Materials"** published by Lambert Academic Publishing, Germany, 2015 (ISBN: 978-3-659-70753-7).

Research Papers: 107, Review Articles: 6
(Single author papers: 66; Joint author papers: 47)

(A) Papers Published:

Single Author Papers:

66. **Mukherjee, P.K**. (2017): Effect of ferroelectric nanoparticles on the dieletric permittivity in the isotropic phaseb of the isotropic-smectic-A phase transition.
J. Mol. Liq. 225, 462-466.
65. **Mukherjee, P.K**. (2016): Effect of ferroelectric nanoparticles on isotropic-smectic-A phase transition.
Europhys. Lett. 114, 56002-1-5..
64. **Mukherjee, P.K**. (2016): New phase diagram in the mixiture of rods and plates of biaxial nematic liquid crystals.
J. Mol.. Liq. 220, 742-746.
63**. Mukherjee, P. K.** (2016): Simple Landau model of isotropic-cholesteric-columnar phase sequence of DNA solutions
J. Mol. Liq. 219, 1095-1099.
62. **Mukherjee, P. K.** (2016): Effect of non-magnetic impurities on the iron-based superconductor.
J. Supercond. Novel Magn. 29, 323-327.
61. **Mukherjee, P. K.** (2016): Ferroelectric and Antiferroelectric liquid crystals. In:
Salem Hashmi (editor-in-chief), Reference Module in Material Science and Material Engineering. Oxford:P Elsevier, 1-21.
60. **Mukherjee, P. K.** (2015): Phase transitions among the rotator phases of the normal alkanes: A review
Physics Reports 588, 1-54.
59. **Mukherjee, P. K.** (2015): Effect of liquid crystal solute on the rotator phase transitions on the normal alkanes.
RSC Advances 5, 12168-12177.
58. **Mukherjee, P. K.** (2015): SmA-SmC-SmC* Lifshitz point in mixtures of chiral and achiral smectic liquid crystals.
J Mol. Liquids 204, 10-14.
57. **Mukherjee, P. K.** (2015): Phenomenological study of ferrofluid to ferrosmectic phase transition in lyotropic liquid crystals.
J. Mol. Liquids 206, 207-212.
56. **Mukherjee, P. K.** (2014): Isotropic to cholesteric phase transition of DNA solutions.
Chem. Phys. Lett. 592, 238-241.
55. **Mukherjee, P. K.** (2014): Theory of biomolecular interaction of phospholipids- decorated surface of liquid crystals.
J. Mol. Liquids, 199, 133-136.
54. **Mukherjee, P. K.** (2014): Isotropic to smectic-A phase transition: A review.
J. Molecular Liquids 190, 99-111.
53. **Mukherjee, P. K.** (2014): Macroscopic dynamics near the isotropic micelar to lamellar phase transition.
Chemical Physics 430, 56-61.
52. **Mukherjee, P. K.** (2014): Dielectric permittivity in the isotropic phase above the isotropic to smectic-E phase transition.
J. Molecular Liquids 193, 210-212.
51. **Mukherjee, P. K.** (2014): Macroscopic description of the ferromagnetic superconductors.

Phase Transitions 87, 1211-1224.
50. **Mukherjee, P. K.** (2014): Reentrant and tricritical behavior of the nematic to smectic A phase transition.
Chem. Phys. 440, 42-46.
49. **Mukherjee, P. K. (**2013): Improved analysis of the effect of molecular flexibility on the nematic to smectic-A phase transition.
Chemical Physics Letters 556, 113-114.
48. **Mukherjee, P. K.** (2013): Isotropic micellar to lamellar phase transition in lyotropic liquid crystals.
RSC Advances 3, 12981-12984.
47. **Mukherjee, P. K.** (2013): Isotropic micellar to tilted lamellar phase transition in lyotropic liquid crystals.
J. Molecular Liquids 187, 90-93.
46. **Mukherjee, P. K.** (2013): Dielectric permittivity in the isotropic phase above the isotropic to smectic-A phase transition.
Physics Letters A 377, 2436-2439.
45. **Mukherjee, P. K.** (2013): Isotropic to smectic-C^* phase transition in smectic-C^* elastomers.
J. Molecular Liquids 187, 266-271.
44. **Mukherjee, P. K**. (2013): Effect of nonmesogenic impurity on the isotropic to Smectic-A phase transition.
Liquid Crystals. 40, 39-44.
43. **Mukherjee, P. K.** (2012): Isotropic to ferroelectric and antiferroelectric liquid crystals phase transition. (Review article).
Phase Transitions 85, 65-84.
42. **Mukherjee, P. K.** (2012): Fluctuation-driven first order crystal to rotator-V phase transition in n-alkane.
Philosophical Magazine Letters 92, 160-165.
41. **Mukherjee, P. K.** (2012): Multicriticality in smectic liquid crystals.
Journal of Non Crystalline Solids 358, 666-673.
40. **Mukherjee, P. K.** (2012): Effect of gauche molecular conformations and molecular flexibility on the rotator phase transitions of alkanes.
J. Phys. Chem. B 116, 1517-1523.
39. **Mukherjee, P. K.** (2012): Isotropic to Smectic-C phase transition in liquid crystalline elastomers.
J. Chem. Phys. 136, 144902-1-5. ibid, 137, 209901-1-1.
38. **Mukherjee, P. K.** (2012): Tricritical behavior of the smectic-A to hexatic-B phase transition in a liquid crystal mixture.
Solid State Communication 152, 1142-1146.
37. **Mukherjee, P. K.** (2012): Theoretical model of the temperature and frequency dependent non-linear dielectric effect in the isotropic phase above the isotropic-smectic-A phase transition.
European Physical J. E 35:28, 1-5.
36. **Mukherjee, P. K.** (2012): The Kerr effect and nonlinear dielectric effect in the isotropic phase of the I-B2 phase transition in banana shaped liquid crystals.
Chemical Physics 405, 67-70.
35. **Mukherjee, P. K.** (2012): Pretransitional Kerr effect and nonlinear dielectric effect in the isotropic phase of the isotropic to smectic-E phase transition.
J. Molecular Liquids 170, 1-3.
34. **Mukherjee, P. K.** (2011): Simple Landau model of the smectic-C_α^* to smectic-C^* transition in binary mixture.
Physica B 406, 2043-2045.
33**. Mukherjee, P. K.** (2011): Renormalization-group analysis of the R_I - R_V transition.

J. Chem. Phys. 134, 224502-1-6.
32. **Mukherjee, P. K.** (2011**):** Elastic properties of the R_{IV}-R_{III} rotator phases of alkanes.
J. Phys. Chem. Solids 72, 1066-1069.
31**. Mukherjee, P. K. (**2011)**.:** Tricritical behavior of the R_I-R_V rotator phase transition in a mixture of alkanes with nanoparticles.
J. Chem. Phys. 135, 134505-1-6.
(Also selected for publication in Virtual Journal of Nanoscale Science and Technology, Vol. 24, Issue 16 (2011)).
30. **Mukherjee, P. K.** (2010): Macroscopic description of the isotropic to antiferroelectric B_2 phase transition in banana-shaped liquid crystals.
J. Chem. Phys. 132, 024903-1-7.
29. **Mukherjee, P. K**. (2010): Tricritical behavior on the rotator phases of normal alkanes.
J. Phys. Chem. B 114, 5700-5703.
28. **Mukherjee, P. K.** (2010): Density variation of the Landau theory on the cholesteric to smectic-A transition.
Chemical Physics 374, 83-85.
27. **Mukherjee, P. K.** (2010): Nematic-SmA-SmC polycritical point.: An alternative model.
European Physical J. E 33, 175-181.
26. **Mukherjee, P. K. (**2009): Pressure effect on the rotator-II to rotator-I transition of normal alkanes.
J. Chem. Phys. 130, 214906-4.
25. **Mukherjee, P. K.** (2009): Tricritical behavior of the smectic-A to smectic-C^* transition.
J. Chem. Phys. 131, 074902-7.
24. **Mukherjee, P. K.** (2008): Simple Landau model of R_V-R_{III}-R_{IV} rotator phases of alkanes.
J. Chem. Phys. 129, 021101-3.
23. **Mukherjee, P. K.** (2008): Pressure induced tricritical point at the cholesteric – smectic-A phase transition.
J. Chem Phys. 129, 244902-6.
22. **Mukherjee, P. K. (**2007**):** Structural phase transitions in Pentacosane.
J. Chem. Phys., 126, 114501-1-7.
21. **Mukherjee, P. K. (**2007**):** Landau model of R_{II}-R_I-R_V rotator phases in mixtures of alkanes.
J. Chem. Phys., 127, 074901-1-6.
20. **Mukherjee, P. K.** (2007): Direct transition from isotropic to smectic-E phase.
Phys. Lett. A, 365, 483-488.
19. **Mukherjee, P. K.** (2007): Tricritical behavior at the smectic-A to smectic-C^*_α phase transition .
Mod. Phys. Lett. B 21, 1579-1584.
18. **Mukherjee, P. K.** (2005): Anomalous heat capacity above the isotropic-chiral smectic C phase transition.
Phys. Rev. E, 71, 061704-6.
17. **Mukherjee, P. K.** (2002) : Nematic - isotropic phase transition in lyotropic liquid crystals.
Liquid Crystals, 29, 863-869.
16. **Mukherjee, P. K.** (2002) : Effect of non-mesogenic solute on the nematic-smectic-A phase transition.
J.Chem.Phys., 116, 9531-9536.
15. **Mukherjee, P. K.** (2002) : Elastic properties of the rotator phases of pentacosane $C_{25}H_{52}$.
J.Chem. Phys., 116, 10787-10793.
14. **Mukherjee, P. K. (**2000): Rotator-II to Rotator-I phase transition in alkanes.
J.Chem.Phys, 113, 4472-4475.

13**. Mukherjee, P. K.** (1999) : Anomalous heat capacity in SmC and chiral SmC liquid crystal above the transition point.
Physica B, 262, 336-339.
12. **Mukherjee, P. K.** (1998) : Critical behavior of uniaxial-biaxial nematic phase transition.
J.Chem. Phys., 109, 2941-2946.
11. **Mukherjee, P. K.** (1998) : Anomalous heat capacity of nematic liquid crystals.
J.Chem.Phys., 109, 3701-3702.
10. **Mukherjee, P. K.** (1998) : Smectic-C order parameter near SmC-SmA phase transition.
Sol.Stat. Commun. 106, 563-565.
9. **Mukherjee, P. K.** (1998) : Improved analysis of the Landau theory of uniaxial-biaxial nematic phase transition.
Liquid Crystals, 24, 519-523.
8. **Mukherjee, P. K.** (1998) : Nematic-Isotropic phase transition : A Review
Current Science, 74, 945.-952
7. **Mukherjee, P. K.** (1998) : Landau theory of smectic-A-nematic phase transition in a liquid crystal mixture.
Mol.Cryst.Liq.Cryst., 312, 157-161.
6. **Mukherjee, P. K.** (1998) : Evidence of tricritical behavior at the nematic-isotropic phase transition.
Int.J.Mod.Phys.B, 12, 1585-1599.
5. **Mukherjee, P. K.** (1998) : T_{NI} -T^{*} puzzle of the nematic-isotropic phase transition
J. Phys. : Cond. Matter, 10, 9191-9205. (Review Article)
4. **Mukherjee, P. K.**, (1997) : Nematic-isotropic phase transition : An alternative formulation.
Mod.Phys.Lett.B, 11, 107-114.
3. **Mukherjee, P. K.**, (1997) : Influence of non-mesogenic substance on the nematic-isotropic phase transition.
Liquid Crystals, 22, 239-243.
2. **Mukherjee, P. K.** (1996) : Critical region at the nematic-isotropic phase transition.
Mod.Phys.Lett.B, 10, 771-775.
1. **Mukherjee, P. K.** (1995) : Renormalization-group analysis of SmA_1- SmA_d phase transition in liquid crystals.
Phys.Rev.E, 52, 1743-1747.

Joint Author Papers:

47. Mamuk, A. E., Nesrullajev, A. and **Mukherjee, P. K**. (2017): Refractive birefringent properties of 4-alkyl-4'-oxycyanobiphenyls at direct and reverse phase transitions.
Mol. Cryst. Liq. Cryst. (in press).
46. **Mukherjee, P.K**. and Das, A. K. (2016): Dielectric properties near the isotropic-smectic-C* phase transition.
Soft Materials 14, 199-203.
45. **Mukherjee, P. K.** and Das, A.K**.** (2016): Fluctuation induced of dielectric permittivity in the isotropic phase of cholesteric liquid crystals.
Int. J. Mod. Phys. B 30, 1650053-1-5.
44. Chattopadhyay, A. K. and **Mukherjee, P. K**. (2015): Dynamics of cholesteric liquid crystals in the presence of random magnetic field.
EuroPhysics Lett. 112, 60002-1-5.
43. **Mukherjee, P. K.** and Prasad, S.K (2015): Dielectric properties of the antiferroelectric B_2 phase of banana shaped liquid crystals.
J. Mol. Liq. 212, 127-132.

42. Kumar, M., Prasad, S.K., Shankar Rao D.S., **Mukherjee, P. K.** (2014): Competition between anisometric and aliphatic entities: Induction of a new phase in a n-alkane – liquid crystal binary system.
Langmuir, 30, 4465-4473.
41. **Mukherjee, P. K.** and Rahman, M. (2014): Electric field induced isotropic to smectic-C phase transition.
J. Mol. Liq. 196, 204-207.
40. **Mukherjee, P. K.** and Pal, A. (2013): Density effect on the isotropic-smectic-C phase transition.
Chemical Physics 412, 92-95.
39. **Mukherjee, P. K.** and Ash, B.(2013): Effect of molecular flexibility on the isotropic to nematic phase transition: An improved analysis.
Solid State Commun. 160. 1-4.
38. **Mukherjee, P. K.** and Tamarit, J. L**.** (2013): Tricritical behavior of the nematic to smectic-A phase transition in binary mixture of liquid crystal.
J. Chem. Phys. 138, 104906-1-6.
37. Rzoska, S. J., Drozd-Rzoska, A., **Mukherjee, P. K**., Lopez, D. O**.,** and Martinzez-Garcia, J. C. (2013): Distortion sensitive insight pretransitional behavior of 4-*n*-octyloxy-4'-cyanobiphenyl (8OCB).
J. Phys.: Cond. Matter 25, 245105-1-11.
36. **Mukherjee, P. K.** and Rahman, M. (2013): Electric field effect on the isotropic-binaxial nematic phase transition.
Chemical Physics 423, 178-181.
35. **Mukherjee, P. K.** and Dey, S. (2012): Simple Landau model of the Liquid-Rotator-II-Rotator-I phase transitiions in n-alknnes.
J. Mod. Phys. 3, 80-84.
34. Rzoska, S. J., **Mukherjee, P. K.** and Małgorzata Rutkowska (2012): On the discontinuity of the isotropic – mesophase transitions in the homologous series of liquid crystalline n-alkyl cyanobiphenyls.
J. Phy. Cond. Matter 24, 375101-10.
33. **Mukherjee, P. K.** and Sasmal, S. (2011): Pressure dependence tricritical point of the nematic-smectic-A phase transition.
Phase Transitions 84, 110-117.
32. **Mukherjee, P. K.**, Chakraborty, S. and Rzoska, S. J (2011): Non-linear dielectric effect in the isotropic phase above the isotropic-cholesteric phase
Chem. Phys. 389, 64-67.
31. Das, A.K. and **Mukherjee, P. K.** (2009): Phenomenological theory of the direct isotropic to hexatic B phase transition.
J. Chem Phys. 130, 054901-1-5.
30. **Mukherjee, P. K.** and Sen , K. (2009): On a new topology in the phase diagram of biaxial liquid crystals.
J. Chem. Phys. 130, 141101-1-4.
29. **Mukherjee, P. K.** and Bose, P. (2009): Non-linear dielectric effect in the isotropic phase of antiferroelectric liquid crystals.
Physica B 404, 3401-3404.
28. **Mukherjee, P. K.** and Das, A.K. (2008): Non-linear dielectric effect in the isotropic phase of ferroelectric liquid crystals.
Physica B 403, 3089-.3092
27. **Mukherjee, P. K.** and Das, A.K. (2008): Linear dielectric response of antiferroelectric liquid crystals.
Physica B 403, 3627-3630.

26. Das, A. K. and **Mukherjee, P. K.** (2008): Tricritical behavior of the SmA-SmC transition in a liquid crystal mixture.
J. Chem. Phys. 128, 234907-6.
25. **Mukherjee, P. K.**, and Bhattacharya, J. (2007): Phenomenological theory of the nematic to lamellar phase transition in lyotropic liquid crystals.
J. Chem. Phys. 126, 024901-.1-6
(Also selected for publication in JCP: BioChemical Physics, Vol. 1, Issue 1 (2007)).
24. **Mukherjee, P. K.** and Rozoska, S.J. (2007): Influence of pressure on the isotropic to smectic-E phase transition.
Physica B 400, 292-296.
23. **Mukherjee, P. K.**, Pleiner, H. and Brand, H.R. (2005): A phenomenological theory of the isotropic to chiral smectic C phase transition.
European Physical J. E, 17, 501-506.
22. **Mukherjee, P. K.**, Lagerwall, J.P.F. and Giesselmann, F. (2005) : Electrolyte effects on the nematic-isotropic phase transition in lyotropic liquid crystals.
Liquid Crystals, 32, 1301-1306.
21. **Mukherjee, P. K.** and Giesselmann, F. (2004) : Landau model of the direct isotropic-smectic C^*_A phase transition in antiferroelectric liquid crystals.
J. Chem. Phys., 121, 12038-12043.
20. **Mukherjee, P. K.** and Rzoska, S.J. (2002): Pressure effect on the smectic-A-isotropic phase transition.
Phys.Rev.E, 65, 051705-5.
19. **Mukherjee, P. K.,** Pleiner, H. and Brand, H.R. (2002): Landau model of the smectic-C-isotropic phase transition.
J.Chem.Phys., 117, 7788-7792.
18. **Mukherjee, P. K.**, Pleiner, H. and Brand, H.R. (2001): Simple Landau Model of the Smectic-A- isotropic phase transition.
Euro. Phy. J. E, 4, 293-297.
17. Brand, H.R., **Mukherjee, P. K.** and Pleiner, H. (2001) : Macroscopic dynamics near smectic-A- isotropic phase transition.
Phys.Rev.E, 63, 61708-61713.
16. **Mukherjee, P. K.** and Deutsch, M. (2000): Effect of long range forces on surface freezing.
Phys.Rev.E, 61, 637-641.
15. **Mukherjee, P. K.** and Deutsch, M. (1999): Fluctuation induced anomalous heat capacity in smectic-A liquid crystals of SmA-SmC phase transition.
J. Chem.Phys., 110, 2680-2683.
14. **Mukherjee, P. K.** and Deutsch, M. (1999): Landau theory of Rotator-I to Rotator-V phase transition in alkanes.
Phys.Rev.B, 60, 3154-3162.
13. Mukhopadhyay, K and **Mukherjee, P. K.** (1999) : Influence of pressure on smectic-A-nematic phase transition.
Mod. Phys.Lett.B, 13, 275-283.
12. Roy, S.S., Majumdar, T.P., Roy, S.K. and **Mukherjee, P. K.** (1998) : Effect of spontaneous polarization on SmC*-SmA phase transition temperature and on cell thickness of ferroelectric liquid crystals.
Liquid Crystals, 25, 59-62.
11. Nandi, B., Saha, M. and **Mukherjee, P. K.** (1998) : Nematic-Smectic-A phase transition.
Int.J.Mod.Phys.B, 12, 207-212.
10. Nandi, B., Saha, M. and **Mukherjee, P. K.** (1997) : Landau theory of smectic-A-isotropic phase transition.
Int.J.Mod.Phys.B, 11, 2425-2432.

9. **Mukherjee, P. K.** and Saha, M. (1997) : Critical exponents for the Landau-de Gennes model of the nematic isotropic phase transition.
Mol. Cryst. Liq. Cryst., 307, 103-110.
8. Mukhopadhyay, K. and **Mukherjee, P. K.** (1997) : Density effects in the Landau-de Gennes theory near the nematic-isotropic phase transition.
Int. J. Mod.Phys.B, 11, 3479-3489.
7. Roy, S.S., Roy, S.K. and **Mukherjee, P. K.** (1997): Relative innfluence piezoelectric bilinear abd biquadratic coupling in SmC* phase of ferroelectric liquid crystal.
Int. J. Mod.Phys.B, 11, 3491-3502.
6. Nandi, B., **Mukherjee, P. K.** and Saha, M. (1996) : Landau-de Gennes model with the inclusion of density cahnge for the nematic-isotropic phase transition.
Mod.Phys. Lett.B, 10, 777-783.
5. Saha, J., Nandi, B., **Mukherjee, P. K.** and Saha, M. (1995) : Monte Carlo simulation of disk like molecules with Gay-Berne type pair interaction potential.
Ind.J.Phys, 69A, 121-126.
4. **Mukherjee, P. K.** and Saha, M. (1995) : Critical behavior of the nematic-isotropic phase transition.
Phys.Rev.E, 51, 5745.-5747
3. **Mukherjee, P. K.**, Bose, T.R. Ghose, D. and Saha, M. (1995) : Inclusion of density variation in the Landau-de Gennes theory of the nematic-isotropic phase transition.
Phys.Rev.E, 51, 4570-4573.
2. **Mukherjee, P. K.**, Saha, J., Nandi, B. and Saha, M. (1994) : Renormalization group calculation of T_C-T^* of the nematic-isotropic phase transition.
Phys.Rev.B, 50, 9778-9780.
1. Saha, J., Nandi, B., **Mukherjee, P. K.** and Saha, M. (1994) : Monte Carlo simulation of the cholesteric phase in liquid crystals.
Mol.Cryst.Liq.Cryst., 250, 185-191.

(B) Papers submitted for publication:

.

114. Chattopadhyay, A. K. and **Mukherjee, P. K**. (2017): Novel universality classes in ferroelectric liquid crystals.
115. **Mukherjee, P. K.** (2017): Nucleation theory of rotator to crystal phase transition..
116. **Mukherjee, P. K.** (2017): Hydrodynamics equations of ferrosmectic phase.
117. **Mukherjee, P. K** and Chattopadhyay, A. K. (2017): Effect of ferroelectric nanoparticles on the nematic-smectic-A phase transition.
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