

List of Publications

I. Articles in refereed journals/invited contributions to books:

- [1] S. Sengupta and A. K. Sood, *Theory of liquid-bcc-fcc coexistence in charge-stabilised colloidal systems*, Phys. Rev. A, **44**, 1233, (1991).
- [2] Surajit Sengupta, C. Dasgupta, H.R. Krishnamurthy, Gautam I. Menon and T.V. Ramakrishnan, *The freezing of the vortex liquid in high T_c superconductors: A density functional approach*, Phys. Rev. Lett., **67**, 3444, (1991).
- [3] Surajit Sengupta, Y.J. Marathe and S. Puri, *Cell dynamical simulation of magnetic hysteresis in the two-dimensional Ising system*, Phys. Rev. B, **44**, 7828 (1992).
- [4] Surajit Sengupta, P. Nielaba and D. Marx, *Density functional theory of magnetisation driven phase transitions in fluids with internal quantum states*, Europhys. Lett, **20**, 383, (1992).
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- [6] D. Marx, S. Sengupta, P. Nielaba, *Diatom molecules, rotations and path -integral Monte Carlo simulations: N_2 and H_2 on graphite*, J. Chem. Phys. **99**, 6031, (1993).
- [7] S. Sengupta, D. Marx and P. Nielaba, *Herringbone orientational transition in monolayer N_2 adsorbed on graphite by density functional theory*, Europhys. Lett. **20**, 383, (1992).
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- [9] D. Marx, S. Sengupta, P. Nielaba and K. Binder, *Clarification of the head-tail ordering of CO on graphite: a Monte Carlo study*, Phys. Rev. Lett. **72**, 262, (1994).
- [10] S. Sengupta, D. Marx, P. Nielaba and K. Binder, *Phase diagram of a model anticlustering binary mixture in two dimensions: A semi -grand -canonical Monte Carlo study*, Phys. Rev. E, **49**, 1468 (1994).
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- [12] D. Marx, S. Sengupta, P. Nielaba and K. Binder, *Monte Carlo investigation of Head -Tail ordering of CO monolayers on graphite*, Surf. Sci. **321**, 195 (1994).
- [13] S. Sengupta, H.R. Krishnamurthy and T.V. Ramakrishnan, *A microscopic theory of the b.c.c. - f.c.c. interface*, Europhys. Lett. **27**, 587, (1994).
- [14] Madan Rao, Surajit Sengupta and H. K. Sahu, *Kinematic Scaling and Cross -over to Scale Invariance in Acicular Martensites*, Phys. Rev. Lett. **75**, 2164, (1995).
- [15] J. Chakravarty, H. R. Krishnamurthy, A.K. Sood and S. Sengupta, *Re-entrant Melting in Laser Field Modulated Colloidal Suspensions*, Phys. Rev. Lett, **75**, 2232, (1995).
- [16] Madan Rao and Surajit Sengupta, *Rao and Sengupta reply*, Phys. Rev. Lett. **76**, 3235 (1996).
- [17] J. Chakravarty, H.R. Krishnamurthy, S. Sengupta and A.K. Sood, *Density Functional Theory of Charge Stabilised Colloidal Suspensions, Ordering and Phase Transitions in Charged Colloids*, A.K. Arora and B.V.R. Tata, Eds., (VCH Publishers, New York, 1995).
- [18] G.I. Menon, C. Dasgupta, H. R. Krishnamurthy, T.V. Ramakrishnan and S. Sengupta, *Density Functional Theory of Flux Lattice Melting in High- T_c Superconductors*, Phys. Rev. B, **54**, 16192 (1996).
- [19] Madan Rao and Surajit Sengupta, *Droplet Fluctuations in the Morphology and Kinetics of Martensites*, Phys. Rev. Lett. **78**, 2168 (1997).
- [20] P. Nielaba and S. Sengupta, *Perturbation density functional theory for phase transitions in a two dimensional antiferro -fluid*. Phys. Rev. E, **55**, 3754 (1997).
- [21] Madan Rao, Surajit Sengupta and R. Shankar, *Shape deformation driven Structural transitions in Quantum Hall Skyrmions*, Phys. Rev. Lett. **79**, 3998 (1997).

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- [33] Debasish Chaudhuri and Surajit Sengupta, *A numerical renormalization group study of laser induced freezing* Europhys. Lett., **67**, 814 (2004); Erratum: Europhys. Lett., **68**, 160 (2004)
- [34] Debasish Chaudhuri and Surajit Sengupta, *Constrained deformation of a confined solid: Anomalous failure by nucleation of smectic bands* Phys. Rev. Lett., **93**, 115702 (2004). (vjnano)
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- [50] Y.-H. Chui, S. Sengupta and K. Binder, *Soliton staircases and standing strain waves in confined colloidal crystals*, Europhys. Lett. **83**, 58004 (2008).
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- [52] Arya Paul, Jayee Bhattacharya, Surajit Sengupta and Madan Rao, *Non-affine deformation in microstructure selection in solids: II. Elastoplastic theory for the dynamics of solid state transformations* J. Phys.: Condens. Matter **20**, 365211 (2008)
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- [67] Chandana Mondal and Surajit Sengupta *Thermodynamic anomalies of a network former in a periodic field*. Eur. Phys. J. E **36**, 6 (2013)

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- [75] Sumanta Mukherjee, Arnab Saha, Pralay K. Santra, Surajit Sengupta and D. D. Sarma, *Beyond the coffee ring": Re-entrant ordering in an evaporation driven self-assembly in colloidal suspension on a substrate*, J. Phys. Chem. B, **118**, 2559 (2014).
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- [83] Saswati Ganguly, Jürgen Horbach, Peter Sollich, Parswa Nath, Smarajit Karmakar and Surajit Sengupta, *Equilibrium and dynamic pleating of a crystalline bonded network*, arXiv:1612.00574

II. Published contributions in academic conferences:

- [1] D. Marx, S. Sengupta, P. Nielaba and K. Binder, *The phase diagram of a two-dimensional fluid with internal quantum states*, J. Phys: Condens. Matter. **6**, A175, (1994). Proceedings of the 2nd Liquid Matter Conference, Firenze, Italy, September, 1993.
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- [8] Kurt Binder, Surajit Sengupta and Peter Nielaba, *The liquid-solid transition of hard discs: first-order transition or Kosterlitz-Thouless- Halperin-Nelson-Young scenario?*, J. Phys. Con- dens. Matter **14**, 2323 (2002).
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- [10] Surajit Sengupta and Madan Rao, *Statistical mechanics of nucleation in solids: a kinetics driven morphological transition*, Physica A, **318**, 251 (2003).
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- [15] A. Chaudhuri, D. Chaudhuri, S. Sengupta, *Induced Interfaces at nano-scales: Structure and Dynamics*, Int. J. Nanosc. **4**, 995, (2005).
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