

Vita of Professor Cheng-Cher Huang

Education:

B.Sc. in Physics, National Taiwan University, Taipei, 1969

Ph.D. in Physics, University of Pennsylvania, Philadelphia, 1975

Positions:

Research Associate, University of Illinois, 1975-1977

Assistant Professor, University of Minnesota, 1977-1982

Visiting Scientist, Bell Laboratories, Murray Hill, 1980, 1982, 1985, 1990

Associate Professor, University of Minnesota, 1982-1987

Visiting Professor, Chalmers University of Technology, Goteborg, Sweden, July 1984

Professor, University of Minnesota, 1987-now

Visiting Professor, J. Stefan Institute, University of Ljubljana, Yugoslavia, September, 1989 and September, 1990

Visiting Scientist, Brookhaven National Laboratories, June 1990

Visiting Professor, National Sun Yat-sen University, Taiwan, July-August, 1992

Board Member of the International Liquid Crystal Society, 1994-1998, 2000-2006

Symposium Organizer, 4 th International Conference of Advanced Materials, 1995

Member of Oversight Committee, Theoretical Physics Institute, University of Minnesota, 1996-2009

Visiting Scientist, APS Argonne National Laboratories, June 1999

Visiting Scientist, ESRF Grenoble, July 1999

Visiting Professor, Academia Sinica, Taiwan, June-July, 2009; July-August, 2010

Honors and Awards:

University-Student-Alumni Association Award, 1987

Fellow, American Physical Society, 1993

Outstanding Referee, American Physical Society, 2008

List of publications

1. "Critical specific-heat scaling in the linear model for fluids," C. C. Huang and J. T. Ho, *Phys. Lett.* **37A**, 149 (1971).
2. "Parametric equations of state for fluids near the critical point," C. C. Huang and J. T. Ho, *Phys. Rev. A* **7**, 1304 (1973).
3. "Critical exponent of europium oxide," C. C. Huang, R. S. Pindak, and J. T. Ho, *Solid State Commun.* **14**, 559 (1974).
4. "Divergence of cholesteric pitch near a smectic-A transition," R. S. Pindak, C. C. Huang, and J. T. Ho, *Phys. Rev. Lett.* **32**, 43 (1974).
5. "The intrinsic pitch of cholesteryl nonanoate," R. S. Pindak, C. C. Huang, and J. T. Ho, *Solid State Commun.* **14**, 821 (1974).

6. "Effect of impurity on the cholesteryl nonanoate," R. S. Pindak, C. C. Huang, and J. T. Ho, *Phys. Lett.* **47A**, 263 (1974).
7. "Dynamics of Fredericks deformation near a nematic-smectic-A transition," C. C. Huang, R. S. Pindak, P. J. Flanders, and J. T. Ho, *Phys. Rev. Lett.* **33**, 400 (1974).
8. "Birefringence and order parameter in nematic N-p-cyanobenzylidene-p-octyloxyaniline," C. C. Huang, R. S. Pindak, and J. T. Ho, *J. de Phys. Lett.* **35**, L185 (1974).
9. "Faraday rotation near the Curie point of EuO," C. C. Huang and J. T. Ho, *Phys. Rev. B* **12**, 5255 (1975).
10. "Scaling behavior of the specific heat of Gd near T_c," M. B. Salamon, D. S. Simons, and C. C. Huang, *Physica* **86-88B**, 583 (1977).
11. "Coexistence of electron-hole gas and liquid in Ge," W. Miniscalco, C. C. Huang, and M. B. Salamon, *Phys. Rev. Lett.* **39**, 1356 (1977).
12. "New method for investigating the magnetic phase diagram of metamagnets," H. T. Shang, C. C. Huang, and M. B. Salamon, *J. Appl. Phys.* **49**, 1366 (1978).
13. "Effect of Impurity on the nematic-smectic-A transition," C. C. Huang, R. S. Pindak, and J. T. Ho, *Solid State Commun.* **25**, 1015 (1978).
14. "Depolarization of light by critical fluctuation in RbAg₄I₅," M. B. Salamon and C. C. Huang, *Phys. Rev. B* **19**, 494 (1979).
15. "Double superconducting transition in single-crystal of V₃Si," M. Dayan, A. M. Goldman, C. C. Huang, M. C. Chiang, and L. E. Toth, *Phys. Rev. Lett.* **42**, 335 (1979).
16. "Specific heat of a transforming V₃Si crystal," C. C. Huang, A. M. Goldman, and L. E. Toth, *Solid State Commun.* **33**, 581 (1980).
17. "A specific heat study of the nematic-smectic-A transition in octyloxycyanobiphenyl," J. M. Viner and C. C. Huang, *Solid State Commun.* **39**, 789 (1981).
18. "A heat capacity study of the stacked hexatic B-smectic A phase transition," C. C. Huang, J. M. Viner, R. Pindak, and J. W. Goodby, *Phys. Rev. Lett.* **46**, 1289 (1981).
19. "Specific heat of a V₃Si Crystal: evidence of weak coupling superconductivity," C. C. Huang, A. M. Goldman, and L. E. Toth, *Physica* **108B**, 1339 (1981).
20. "The nature of a nematic-smectic A-smectic C multicritical point," C. C. Huang, and S. C. Lien, *Phys. Rev. Lett.* **47**, 1917 (1981).
21. "The nature of the smectic A-smectic C transition in liquid crystals," C. C. Huang and J. M. Viner, *Phys. Rev. A* **25**, 3385 (1982).
22. "The existence of a tricritical point in the smectic A-smectic C transition," C. C. Huang, *Solid State Commun.* **43**, 883 (1982).
23. "A heat capacity study of phase transition in the liquid crystal racemic 4-(2'-methylbutyl)phenyl 4'-n-nonyloxybiphenyl-4-carboxylate (2M4P9OBC)," J. M. Viner and C. C. Huang, *Phys. Rev. A* **27**, 2763 (1983).
24. "A heat capacity study of phase transitions in ferroelectric liquid crystal (R")hexyloxybenzylidene p'-amino-2-chloropropyl cinnamate (HOBACPC)," S. C. Lien, J. M. Viner, C. C. Huang, and N. A. Clark, *Mol. Cryst. Liq. Cryst.* **100**, 145 (1983).
25. "Heat capacity near the smectic A-hexatic B and hexatic B-E transition on n-hexyl-4'-n-pentyloxybiphenyl-4-carboxylate (65OBC)," J. M. Viner, D. Lamey, C. C. Huang, R. Pindak, and J. W. Goodby, *Phys. Rev. A* **28**, 2433 (1983).
26. "The effect of the tricritical region on the smectic A-smectic C transition," C. C. Huang and J. M. Viner, *Liquid Crystals and Order Fluids*, Vol. **4**, Ed. by A. C. Griffin and J. F. Johnson (Plenum, New York, 1984) p. 643.

27. "Nature of the smectic A-smectic C transition near a nematic-smectic A-smectic C multicritical point," C. C. Huang and S. C. Lien, *Multicritical Phenomena*, Ed. by R. Pynn and A. Skjeltorp, Proceedings of the NATO Advanced Studies Institute, Series B, Physics, Vol. **106** (Plenum, New York, 1984) p. 73.
28. "Heat capacity studies near the smectic A-smectic C (smectic C*) transition in a racemic (chiral) smectic liquid crystal," S. C. Lien, C. C. Huang, and J. W. Goodby, *Phys. Rev. A* **29**, 1371 (1984).
29. "Possible general behavior in smectic A-smectic C (chiral smectic C) transition," S. C. Lien and C. C. Huang, *Phys. Rev. A* **30**, 624 (1984).
30. "Determination of the coefficients in Landau free energy near the smectic A-chiral smectic C transition for the liquid crystal MBRA8," S. C. Lien, C. C. Huang, T. Carlsson, I Dahl, and S. T. Lagerwall, *Mol. Cryst. Liq. Cryst.* **108**, 149 (1984).
31. "Calorimetric studies near the smectic A₁-smectic A phase transition of a liquid crystal compound," C. C. Huang, S. C. Lien, S. Dumrongrattana, and L. Y. Chiang, *Phys. Rev. A* **30**, 965 (1984).
32. "The effect of the smectic A temperature range on the behavior of the smectic A-smectic C (or chiral smectic C) transition," C. C. Huang and S. C. Lien, *Phys. Rev. A* **31**, 2621 (1985).
33. "A new experimental technique for simultaneously measuring thermal conductivity and heat capacity," C. C. Huang, J. M. Viner, and J. C. Novack, *Rev. Sci. Instrum.* **56**, 1390 (1985).
34. "Smectic A-hexatic B transition of various compounds in the homologous series of n-alkyl-4'-n-alkoxybiphenyl-4-carboxylate," T. Pitchford, G. Nounesis, S. Dumrongrattana, J. M. Viner, C. C. Huang, and J. W. Goodby, *Phys. Rev. A* **32** (RC) 1938 (1985).
35. "Polarization and tilt-angle measurements near the smectic-A-chiral-smectic-C transition of DOBAMBC," S. Dumrongrattana and C. C. Huang, *Phys. Rev. Lett.* **56**, 464 (1986).
36. "Measurements of tilt-angle and heat capacity in the vicinity of one smectic-A-chiral smectic-C transition," S. Dumrongrattana, G. Nounesis, and C. C. Huang, *Phys. Rev. A (RC)* **33**, 2181 (1986).
37. "Heat capacity study of one liquid crystal compound with smectic-A-hexatic-B-crystal-B transition," C. C. Huang, G. Nounesis and D. Guillon, *Phys. Rev. A* **33**, 2602 (1986).
38. "Thermal conductivity studies near a smectic-A-hexatic-B transition in one liquid crystal compound," G. Nounesis, C. C. Huang, and J. W. Goodby, *Phys. Rev. Lett.* **56**, 1712 (1986).
39. "Temperature dependence of electrical critical field for one chiral smectic-C material," S. Dumrongrattana and C. C. Huang, *J. de Phys.* **47**, 2117 (1986).
40. "Tilt-angle, polarization and heat-capacity measurements near the smectic-A-chiral-smectic-C transition of DOBAMBC," S. Dumrongrattana, C. C. Huang, G. Nounesis, S. C. Lien, and J. M. Viner, *Phys. Rev. A* **34**, 5010 (1986).
41. "A generalized mean-field model for the smectic-A-chiral-smectic-C transition," C. C. Huang and S. Dumrongrattana, *Phys. Rev. A* **34**, 5020 (1986).
42. "The existence and nature of one smectic-A-hexatic-B-smectic-I point," T. Pitchford, C. C. Huang, J. D. Budai, S. C. Davey, R. Pindak, and J. W. Goodby, *Phys. Rev. A* **34**, 2422 (1986).

43. "Heat capacity study of free-standing liquid-crystal films," T. Pitchford, C. C. Huang, R. Pindak, and J. W. Goodby, *Phys. Rev. Lett.* **57**, 1239 (1986).
44. "Heat capacity studies near the smectic-A-smectic-C phase transition of AMC-11," G. Nounesis, C. C. Huang, T. Pitchford, E. Hobbie, and S. T. Lagerwall, *Phys. Rev. A* **35**, 1441 (1987).
45. "Heat capacity, tilt-angle and polarization measurements near the smectic-A-chiral-smectic-C transition of one liquid crystal compound," C. C. Huang, S. Dumrongrattana, G. Nounesis, J. J. Stofko, and P. A. Arimilli, *Phys. Rev. A (RC)* **35**, 1460 (1987).
46. "The effect of the magnitude of the disordered phase temperature range on the given phase transition in liquid crystals," C. C. Huang, in "*Theory and Application of Liquid Crystals*", ed. by J. L. Erickson and D. Kinderlehrer, (Spring-Verlag) New York, 1987, p.183.
47. "Nature of the smectic-A-chiral smectic-C transition," C. C. Huang, *Mol. Cryst. Liq. Cryst.* **144**, 1 (1987).
48. "Thermal conductivity studies and free-standing liquid crystal film calorimetry as two applications of the ac calorimetric technique," C. C. Huang, G. Nounesis, and T. Pitchford, in "*Structural Incommensurability in Crystals, Liquid Crystals and Quasicrystals*," Ed. by J. F. Scott and N. A. Clark (Plenum, New York) p.305 (1987).
49. "Thermal-conductivity studies near the smectic-A-smectic-C transition in a liquid crystal compound," E. K. Hobbie and C. C. Huang, *Phys. Rev. A* **36**, 5459 (1987).
50. "Heat-capacity studies near the smectic-C-smectic-I transition of two liquid crystal compounds," E. Hobbie, H. Y. Liu, C. C. Huang, and J. Liang, *Phys. Rev. A* **37**, 3963 (1988).
51. "Tricriticality near the smectic-A-smectic-C transition of a liquid crystal compound," H. Y. Liu, C. C. Huang, Ch. Bahr, and G. Heppke, *Phys. Rev. Lett.* **61**, 345 (1988).
52. "Numerical models of mesophases," C. C. Huang, *Nature* **332**, 781 (1988).
53. "The relation among the tilt-angle, polarization and helical pitch in the chiral smectic-C phase," C. C. Huang, R. J. Raschke, and T. Min, *Ferroelectrics* **84**, 15 (1989).
54. "Nature of smectic A-chiral smectic C transition," C. C. Huang, *Polymer* **29**, 472 (1989).
55. "Calorimetric study of the smectic-A-hexatic-B phase transition of a liquid crystal binary mixture," C. C. Huang, G. Nounesis, R. Geer, J. W. Goodby, and D. Guillon, *Phys. Rev. A (RC)* **39**, 3741 (1989).
56. "Simple explanation of the anomalous transport of heat near two smectic liquid-crystal phase transitions," E. K. Hobbie and C. C. Huang, *Phys. Rev. A* **39**, 4154 (1989).
57. "Thermal-conductivity studies near the smectic-C-smectic-I transition of racemic 4-(2'-methylbutyl) phenyl-4'-n-octyloxy-biphenyl-4-carboxylate," E. K. Hobbie, H. Y. Liu, C. C. Huang, and J. C. Liang, *Phys. Rev. A* **39**, 4159 (1989).
58. "Critical slow down near the smectic-A-hexatic-B transition," R. Geer, H. Y. Liu, E. K. Hobbie, G. Nounesis, C. C. Huang, and J.W. Goodby, *J. Phys. France* **50**, 3167 (1989).
59. "Effect of the transverse dipole moment on the smectic-A-smectic-C (or -chiral-smectic-C) transition," H. Y. Liu, C.C. Huang, T. Min, D. M Wand, M. D. Walba, N. A. Clark, Ch. Bahr, and G. Heppke, *Phys. Rev. A (RC)* **40**, 6759 (1989).
60. "Heat-capacity anomaly from four-layer liquid crystal films," R. Geer, C. C. Huang, R. Pindak, and J. W. Goodby, *Phys. Rev. Lett.* **63**, 540 (1989).

61. "Calorimetric and optical microscopic studies on one ferroelectric liquid-crystal compound with the smectic-A* phase," C. C. Huang, D. S. Lin, J. W. Goodby, M. A. Waugh, S. M. Stein, and E. Chin, *Phys. Rev. A (RC)* **40**, 4153 (1989).
62. "Effect of the hexatic-B temperature range on the nature of the smectic-A-hexatic-B phase transition," G. Nounesis, R. Geer, H. Y. Liu, C. C. Huang, and J. W. Goodby, *Phys. Rev. A (RC)* **40**, 5468 (1989).
63. "Thermal property evolution toward effectively two-dimensional substrate-free systems," R. Geer, T. Stoebe, C. C. Huang, R. Pindak, and J. W. Goodby, MRS Symposium Proceedings Vol **177** *Macromolecular Liquids* Ed. by C. R. Safinya, S. A. Safran and P. A. Pincus, p 299, (1990).
64. "Thermal and electro-optical studies of one ferroelectric liquid crystal with a polarization sign reversal," C. C. Huang, T. Min, D. S. Lin, B. Zhou, and J. W. Goodby, *J. Physics (France)* **51**, 1749 (1990).
65. "An ac calorimeter for measuring heat capacity of free-standing liquid-crystal films," R. Geer, T. Stoebe, T. Pitchford, and C. C. Huang, *Rev. Sci. Instrum.* **62**, 415 (1991).
66. "Hexatic and crystal phase transitions in thin free-standing liquid crystal films," R. Geer, T. Stoebe, C. C. Huang, R. Pindak, G. Srajer, J. W. Goodby, M. Cheng, J. T. Ho, and S. W. Hui, *Phys. Rev. Lett.* **66**, 1322 (1991).
67. "Dielectric method for determining the electric critical field in ferroelectric liquid crystals," A. Levstik, Z. Kutnjak, B. Zeks, S. Dumrongrattana, and C. C. Huang, *J. Physics II (France)* **1**, 797 (1991).
68. "Heat capacity investigations near the normal-superconducting transition of $\text{YBa}_2\text{Cu}_3\text{O}_7$," B. Zhou, J. Buan, C. C. Huang, J. V. Waszczak, and L. F. Schneemeyer, *Phys. Rev. B-II (RC)* **44**, 10408 (1991).
69. "Divergent thermal diffusivity at a mean-field tricritical point," E. K. Hobbie, H. Y. Liu, C. C. Huang, Ch. Bahr, and G. Heppke, *Phys. Rev. Lett.* **67**, 1771 (1991).
70. "Orientational epitaxy of crystal-E overlayer on hexatic-B substrate," M. Cheng, J. T. Ho, S. W. Hui, R. Pindak, R. Geer, and C. C. Huang, *Phys. Rev. A (RC)* **44**, R7891 (1991).
71. "Liquid-hexatic phase transitions in single molecular layers of liquid-crystal films" R. Geer, T. Stoebe, C. C. Huang, R. Pindak, J. W. Goodby, M. Cheng, J. T. Ho, and S. W. Hui, *Nature* **355**, 152 (1992).
72. "Nature of phase transitions related to stacked hexatic phases in liquid crystals," C. C. Huang, one chapter in "*Bond-orientational Order in Condensed Matter Systems*" (Springer-Verlag New York, 1992) edited by K. J. Strandburg.
73. "Heat capacity investigations of extremely thin liquid-crystal free-standing films," C. C. Huang, R. Geer, and T. Stoebe, *Mol. Cryst. Liq. Cryst.* **212**, 9 (1992).
74. "Simultaneous measurement of heat capacity and in-plane density of thin free standing liquid crystal films," T. Stoebe, C. C. Huang and J. W. Goodby, *Phys. Rev. Lett.* **68**, 2944 (1992).
75. "Thickness dependence of the interior smectic-A-hexatic-B transition temperatures in liquid-crystal films," R. Geer, T. Stoebe, and C. C. Huang, *Phys. Rev. B* **45**, 13055 (1992).
76. "Layer by layer surface ordering near a continuous transition in free standing liquid crystal films," T. Stoebe, R. Geer, C. C. Huang, and J. W. Goodby, *Phys. Rev. Lett.* **69**, 2090 (1992).

77. "Effect of surface crystal-E order on the interior smectic-A-hexatic-B transition," R. Geer, T. Stoebe, C. C. Huang and J. W. Goodby, *Phys. Rev. A* **46**, R6162 (RC) (1992).
78. "Heat-capacity anomalies from four-layer liquid-crystal films, experimental results and simulation results," C.C. Huang, I. M. Jiang, A. J. Jin, T. Stoebe, R. Geer, and C. Dasgupta, *Phys. Rev. E* **47**, 2938 (1993).
79. "Scaling behavior of the specific heat of a $\text{LuBa}_2\text{Cu}_3\text{O}_{7-y}$ single crystal near the H_{C2} line," B. Zhou, J. Buan, S. W. Pierson, C. C. Huang, O. T. Valls, J.Z. Liu and R. N. Shelton, *Phys. Rev. B (R.C.)* **47**, 11631 (1993).
80. "Simultaneous calorimetric and optical measurements of extremely thin liquid-crystal films," T. Stoebe and C. C. Huang, *Liq. Cryst.* **14**, 559 (1993).
81. "The effect of free surfaces on the smectic-A-hexatic-B-crystal-E transitions in thin free-standing films of the liquid crystal compound 75OBC," R. Geer, T. Stoebe, and C. C. Huang, *Phys. Rev. E* **48**, 408 (1993).
82. "Thermal properties related to the hexatic-B, smectic-I and smectic-F phases in liquid crystals," C. C. Huang and T. Stoebe, *Advances in Physics* **42** pp343-391 (1993).
83. "Asymptotic crossover in polymer blends," E. K. Hobbie, L. Reed, C. C. Huang, and C. C. Han, *Phys. Rev. E* **48**, 1579 (1993).
84. "Monte Carlo simulation of a coupled XY model," I. M. Jiang, S. N. Huang, J. Y. Ko, T. Stoebe, A. J. Jin, and C. C. Huang, *Phys. Rev. E* **48**, R3240 (1993).
85. "Analysis of the specific heat of high- T_C superconductors in magnetic fields," J. Buan, B. Zhou, S. W. Pierson, C. C. Huang, O. T. Valls, J. Z. Liu, and R. N. Shelton, *Physica B* **194-196** 1491(1994).
86. "A transverse magnetization study of the pairing state of the high- T_c superconductor $\text{LuBa}_2\text{Cu}_3\text{O}_{7-x}$," J. Buan, B. P. Stojkovic, N. E. Israeloff, A. M. Goldman, C. C. Huang, O. T. Valls, J. Z. Liu and R. Shelton, *Phys. Rev. Lett.* **72**, 2632 (1994).
87. "Surface tension of free-standing liquid-crystal films," T. Stoebe, P. Mach, and C. C. Huang, *Phys. Rev. E (R C)* **49**, R3587 (1994).
88. "Anisotropy of the thermodynamic response along the a and b axes of the 1:2:3 compounds," J. Buan, B. Zhou, C. C. Huang, J. Z. Liu and R. N. Shelton, *Phys. Rev. B* **49**, 12220 (1994).
89. "Novel results of extremely thin substrate-free liquid-crystal films obtained from calorimetric and computer simulation studies," T. Stoebe, I. M. Jiang, S. N. Huang, A. J. Jin, and C. C. Huang, *Physica A* **205**, 108(1994).
90. "Nature of the layer-by-layer transition associated with the smectic-A-crystal-B transition in free-standing liquid crystal films" A. J. Jin, T. Stoebe, and C. C. Huang, *Phys. Rev. E (RC)* **49**, R4791 (1994).
91. "Nature of the smectic-A-hexatic-B-crystal-E transition in extremely thin films determined by optical reflectivity measurements," T. Stoebe and C. C. Huang, *Phys. Rev. E* **49**, 5238 (1994).
92. "Calorimetric investigation of the smectic-C-smectic-I transition in free-standing DOBAMBC films," T. Stoebe and C. C. Huang, *Phys. Rev. E (RC)* **50**, R32 (1994).
93. "Unusual layer-thinning transition observed near the smectic-A-isotropic transition in free-standing liquid-crystal films," T. Stoebe, P. Mach, and C. C. Huang, *Phys. Rev. Lett.* **73**, 1384 (1994)
94. "Heat capacity measurements of extremely thin substrate-free liquid-crystal films," T. Stoebe, J. T. Ho, and C. C. Huang, *Intl. J. Thermophysics* **15**, 1189 (1994).

95. "Layer-by-layer transitions in liquid crystals," T. Stoebe, A. J. Jin, P. Mach, and C. C. Huang, *Intl. J. Thermophysics* **16**, 33 (1995).
96. "Surface tension of several liquid-crystal compounds in the smectic-A or smectic-A_d phase," P. Mach, S. Grantz, D. A. Debe, T. Stoebe, and C. C. Huang, *J. de Physique II (France)* **5**, 217 (1995).
97. "Comment on "3D XY scaling of the specific heat of YBa₂Cu₃O_{7-δ} single crystals",," S. W. Pierson, J. Buan, B. Zhou, C. C. Huang, and O. T. Valls, *Phys. Rev. Lett.* **74**, 1887 (1995).
98. "Calorimetric and structural characterization of thin liquid-crystal films exhibiting the smectic-A-hexatic-B-crystal-B transitions," A. J. Jin, M. Veum, T. Stoebe, C. F. Chou, J. T. Ho, S. W. Hui, V. Surendranath, and C. C. Huang, *Phys. Rev. Lett.* **74**, 4863 (1995).
99. "Calorimetric, optical reflectivity and electron-diffraction studies of 40.8 free-standing films," A. J. Jin, J. T. Ho, T. Stoebe, M. Cheng, and C. C. Huang, *Mol. Cryst. Liq. Cryst.* **206**, 469 (1995).
100. "Novel layer-by-layer transitions found in free-standing liquid-crystal films," T. Stoebe, A. J. Jin, P. Mach, and C. C. Huang, *Mol. Cryst. Liq. Cryst.* **206**, 511 (1995).
101. "Physical properties of thin substrate-free liquid-crystal films," T. Stoebe and C. C. Huang, an invited review article, *Intl. J. Modern Physics B.* **9**, 2285-2319 (1995).
102. "Critical fluctuations near the smectic-A-smectic-C transition of a partially perfluorinated compound," L. Reed, T. Stoebe, and C. C. Huang, *Phys. Rev. E (RC)* **52**, R2157-2160 (1995).
103. "Helicity modulus near a three-state-Potts transition in two dimensions," I. M. Jiang and C. C. Huang, *Physica A* **221**, 104 (1995).
104. Book Review, "*The Physics of Liquid Crystals*," by P. G. de Gennes and J. Prost, *Mol. Cryst. Liq. Cryst.* **270**, 175 (1995).
105. "The surface tension of free-standing partially fluorinated liquid-crystal films," T. Stoebe, P. Mach, S. Grantz, and C. C. Huang, *Phys. Rev. E* **53**, 1662 (1996).
106. "Monte-Carlo studies of helicity modulus and heat capacity of a coupled XY model in two dimensions," I. M. Jiang, T. Stoebe, and C. C. Huang, *Phys. Rev. Lett.* **76**, 2910 (1996).
107. "Nature of the smectic-A-hexatic-B-crystal-B transitions of one liquid-crystal compound," A. J. Jin, M. Veum, T. Stoebe, C. F. Chou, J. T. Ho, S. W. Hui, V. Surendranath, and C. C. Huang, *Phys. Rev. E* **53**, 3639 (1996).
108. "Characterization several novel phase transitions in a unique lower dimension system of free-standing liquid-crystal films," A. J. Jin, M. Veum, C. F. Chou, J. T. Ho, V. Surendranath, T. Stoebe, S. W. Hui, and C. C. Huang, *Modern Phys. Lett. B* **10**, 269 (1996).
109. "Nature of the smectic-A-smectic-C transition of a partially perfluorinated compound," T. Stoebe, L. Reed, M. Veum, and C. C. Huang, *Phys. Rev. E* **54**, 1584 (1996).
110. "Nature of layer-by-layer freezing in free-standing 40.8 films," C. Y. Chao, C. F. Chou, J. T. Ho, S. W. Hui, A. J. Jin, and C. C. Huang, *Phys. Rev. Lett.* **77**, 2750 (1996).
111. "Studies of surface-induced layer-by-layer two-stage phase transformations," A. J. Jin, C. C. Huang, C. F. Chou, C. Y. Chao, and J. T. Ho, *Modern Phys. Lett. B* **10**, 765 (1996).
112. "Experimental investigation of the pairing state of high temperature superconductors," J. Buan, T. Jacobs, C. R. Shih, B. P. Stojkovic, N. Israeloff, J. Z. Liu, A. M. Goldman, C. C. Huang, R. Shelton, S. Sridhar, O. T. Valls, and H. D. Yang, *Phys. Rev. B.* **54**, 7462 (1996).

113. "Layer thinning transition above the bulk smectic-A-isotropic transition in free-standing liquid crystal films," P. M. Johnson, P. Mach, E.D. Wedell, F. Lintgen, M. Neubert, and C.C. Huang, *Phys. Rev. E* **55**, 4386 (1997).
114. "Induced hexatic phase in a free-standing two-layer 40.8 film," C.F. Chou, A.J. Jin, C.Y. Chao, S. W. Hui, C.C. Huang, and J. T. Ho, *Phys. Rev. E* **55**, R6337 (1997).
115. "The effect of herringbone order on the nature of smectic-A-hexatic-B transition in thin free-standing films of nmOBC," I. M. Jiang and C. C. Huang, *Mol. Cryst. Liq. Cryst.* **301**, 385 (1997).
116. "Electron-diffraction studies of phase transitions in 40.8 free-standing thin films," C. Y. Chao, C. F. Chou, J. T. Ho, S. W. Hui, A. J. Jin, and C. C. Huang, *Mol. Cryst. Liq. Cryst.* **301**, 123 (1997).
117. "Ellipsometric study of free suspended smectic films of a partially fluorinated compound," D. Schlauf, Ch. Bahr, and C.C. Huang, *Phys. Rev. E* **55** R4885 (1997).
118. "Stability and phase transitions of single molecular layer free-standing liquid-crystal films: new pieces to an old puzzle," M. Veum, C. C. Huang, and V. Surendranath, *Phys. Rev. E* **56**, 2298 (1997)
119. "Immobilization of microscale gradients using heterobifunctional photolinkers and laser light activation: model system using R-phycoerythrin," C. L. Hypolite, T. L. McLernon, D. N. Adams, K. E. Chapman, C. B. Herbert, C. C. Huang, M. D. Distefano, and W. S. Hu, *Bioconjugate Chemistry* **8**, 658 (1997).
120. "Micropatterning gradients and controlling surface densities of photoactivatable biomolecules on self-assembled monolayers of oligo(ethylene glycol) alkanethiolates," C. B. Herbert, T. L. McLernon, C. L. Hypolite, D. N. Adams, L. Pikus, C. C. Huang, G. B. Fields, P. C. Letourneau, M. D. Distefano, and W. S. Hu, *Chemistry & Biology* **4**, 731 (1997).
121. "Surface tension obtained from various smectic-A liquid crystal free-standing films," P. Mach, S. Grantz, T. Stoebe, and C. C. Huang, *Mol. Cryst. Liq. Cryst.* **302**, 181 (1997).
122. "Surface tension of liquid crystals containing two perfluoroalkyl tails," P. Mach, C. C. Huang, and H. T. Nguyen, *Langmuir* (letter) **13**, 6357 (1997).
123. "Layer compression in free-standing liquid crystal films," P. Mach, P. M. Johnson, E. D. Wedell, F. Lintgen, and C. C. Huang, *Europhys. Lett.* **40**, 399 (1997).
124. "Calorimetric investigation of thin free-standing liquid crystal films," T. Stoebe and C. C. Huang, *Mol. Cryst. Liq. Cryst.* **303**, 361 (1997).
125. "Dramatic effect of single-atom replacement on the surface tension of liquid-crystal compounds," P. Mach, C. C. Huang, and H. T. Nguyen, *Phys. Rev. Lett.* **80**, 732 (1998).
126. "The physical properties of non-chiral smectic liquid crystals," C. C. Huang, in the *"Handbook of Liquid Crystals"* Vol 2A P. 441- 469 ed. by D. Demus, J. W. Goodby, and G. W. Gray (1998).
127. "Multiple-step melting in two-dimensional liquid-crystal films," C. F. Chou, A. J. Jin, S. W. Hui, C. C. Huang, and J. T. Ho, *Science* **280**, 1424 (1998).
128. Book Review, *"Introduction to Liquid Crystals: Chemistry and Physics,"* by P. J. Collings and M. Hird, *Am. J. Phys.* **66**, 551 (1998).
129. "Structural characterization of various chiral smectic-C phase by resonant x-ray scattering," P. Mach, R. Pindak, A.-M. Levelut, P. Barois, H. T. Nguyen, C. C. Huang, and L. Furenid, *Phys. Rev. Lett.* **81**, 1015 (1998).

130. "Surface tension obtained from various smectic free-standing films: the molecular origin of surface tension," P. Mach, C. C. Huang, T. Stoebe, E. D. Wedell, T. Nguyen, W. H. de Jeu, F. Guittard, J. Naciri, R. Shashidhar, N. Clark, I. M. Jiang, F. J. Kao, H. Liu, and H. Nohira, *Langmuir* **14**, 4330 (1998).
131. "High-resolution heat capacity studies of the hexatic-B-smectic-F phase transition in a liquid-crystal compound," P. M. Johnson, C. C. Huang, E. Gorecka and D. Pocięcha, *Phys. Rev. E (R.C.)* **58**, R1207 (1998).
132. "Polarization sign inversion and smectic-A-smectic-C surface transitions in freely suspended films of fluorinated and nonfluorinated compounds," D. Schlauf, Ch. Bahr, C. C. Huang, *Ferroelectrics* **212**, 221 (1998).
133. "Experimental characterization of layer thinning transitions," S. Pankratz, P. M. Johnson, H. T. Nguyen, and C. C. Huang, *Phys. Rev. E (R.C.)* **58**, R2721 (1998).
134. "Critical heat capacity at the smectic-A-smectic-C transition in a partially fluorinated liquid crystal," G. S. Iannacchione, C. W. Garland, P. M. Johnson, and C. C. Huang, *Liq. Cryst.* **26**, 51 (1999).
135. "The spreading dynamics of terraced droplets," S. Betelu, B. M. Law, and C. C. Huang, *Phys. Rev. E* **59**, 6699 (1999).
136. "Thinning transitions in free-standing liquid crystal films as the successive formation of dislocation loops," S. Pankratz, P. M. Johnson, R. Holyst, and C. C. Huang *Phys. Rev. E (R.C.)* **60**, R2456 (1999).
137. "Smectic layering at the free surface of isotropic liquid crystals in the pre-smectic temperature region characterized by ellipsometry," C. Glorieux, P. De Schrijver, P. M. Johnson, O. Balus, C. Serban, C. C. Huang, and J. Thoen, *Mol. Cryst. Liq. Cryst.* **329**, 663 (1999).
138. "Optical reflectivity and ellipsometry studies of the Sm-C α * phase," P. M. Johnson, S. Pankratz, P. Mach, H. T. Nguyen, and C. C. Huang, *Phys. Rev. Lett.* **83**, 4073 (1999).
139. "Structure of chiral smectic-C mesophases revealed by polarization-analyzed resonant x-ray scattering," P. Mach, R. Pindak, A.-M. Levelut, P. Barois, H. T. Nguyen, H. Baltes, M. Hird, K. Toyne, A. Seed, J. W. Goodby, C. C. Huang, and L. Furenlid, *Phys. Rev. E* **60**, 6793 (1999).
140. "Temperature variation of film tension measured by a vibrating membrane tensiometer," M. Veum, C. Pettersen, P. Mach, and C. C. Huang, *Phys. Rev. E* **61**, R2192, (2000).
141. "Resonant x-ray scattering at the Se edge in liquid crystal free-standing films and devices," L. S. Matkin, H. F. Gleeson, P. Mach, C. C. Huang, R. Pindak, G. Srajer, J. Pollmann, J. W. Goodby, M. Hird, and A. Seed, *Appl. Phys. Lett.* **76**, 1863 (2000).
142. "The structure of the ferrielectric liquid crystal phases as determined by ellipsometry," P. M. Johnson, D. A. Olson, S. Pankratz, T. Nguyen, J. W. Goodby, and C. C. Huang, *Phys. Rev. Lett.* **84**, 4870 (2000).
143. "Kinetics of layer-thinning transitions in overheated smectic films," S. Pankratz, P. M. Johnson, A. Paulson, and C. C. Huang, *Phys. Rev. E* **61**, 6689 (2000).
144. "Resonant x-ray diffraction study of a new brominated chiral SmC $_A$ * liquid crystal," P. Cluzeau, P. Gisse, V. Ravaine, A.-M. Levelut, P. Barois, C. C. Huang, F. Rieutord, H. T. Nguyen, *Ferroelectrics* **244**, 1 (2000).

145. "High-resolution differential optical reflectivity measurements of freestanding liquid crystal films," S. Pankratz, P. M. Johnson, and C. C. Huang, *Rev. Sci. Instrum.* **71**, 3184 (2000).
146. "Ellipsometric studies of synclinic and anticlinic arrangements in liquid crystal films," P. M. Johnson, D. A. Olson, S. Pankratz, Ch. Bahr, J. W. Goodby, and C. C. Huang, *Phys. Rev. E* **62**, 8106 (2000).
147. "Optical studies of the liquid crystal B2 phase formed by banana-shaped molecules," D. A. Olson, M. Veum, M. V. D'Agostino, A. Cady, P. M. Johnson, T. Nguyen, L. C. Chien, and C. C. Huang, *Phys. Rev. E* **63**, 041702 (2001).
148. "Unusual thickness-dependent thermal behavior and anticlinic coupling in chiral smectic free-standing liquid crystal films," C. Y. Chao, C. R. Lo, P. J. Wu, Y. H. Liu, D. R. Link. J. E. Maclennan, N. A. Clark, M. Veum, C. C. Huang, and J. T. Ho, *Phys. Rev. Lett.* **86**, 4048 (2001).
149. "Optical studies of the SmC_α* phase layer structure in the free-standing films," D. A. Olson, S. Pankratz, P. M. Johnson, A. Cady, H. T. Nguyen, and C. C. Huang, *Phys. Rev. E.* **63**, 061711 (2001).
150. "A resonant x-ray scattering study of the antiferroelectric and ferroelectric phases in liquid crystal devices," L. S. Matkin, S. J. Watson, H. F. Gleeson, R. Pindak, J. Pitney, P. M. Johnson, C. C. Huang, P. Barois, A-M Levelut, G. Srajer, J. Pollmann, J. W. Goodby, and M. Hird, *Phys. Rev. E* **64**, 021705 (2001).
151. "Detailed optical studies of several banana-shaped compounds in the B2 phase," D. A. Olson, A. Cady, W. Weissflog, H. T. Nguyen, and C. C. Huang, *Phys. Rev. E.* **64**, 051713 (2001).
152. "Orientational ordering in the chiral SmC_{F12}* liquid crystal phase determined by resonant polarized x-ray diffraction," A. Cady, J. A. Pitney, R. Pindak, L. S. Matkin, S. J. Watson, H. F. Gleeson, P. Cluzeau, P. Barois, A. M. Levelut, W. Caliebe, J. W. Goodby, M. Hird, and C. C. Huang, *Phys. Rev. E.* **64**, 050702 (R) (2001).
153. "Calorimetric and optical-reflectivity study of thin free-standing 64COOBC liquid-crystal films," C. Y. Chao, C. R. Lo, Y. H. Liu, M. Veum, C. C. Huang, V. Surendranath, and J. T. Ho, *Mol. Cryst. Liq. Cryst.* **365**, 499 (2001).
154. "Surface structures and transitions in the smectic-C* phase of one chiral liquid crystal compound," X. F. Han, D. A. Olson, A. Cady, J. W. Goodby, and C. C. Huang, *Phys. Rev. E* **65**, 010704 (2002).
155. "Dramatic effect of an additional CH₂ group on the temperature variation of the SmC_α* short helical pitch," A. Cady, D. A. Olson, X. F. Han, H. T. Nguyen, and C. C. Huang, *Phys. Rev. E.* **65**, 030701 (2002).
156. "Observation of unusual surface ordering in a uniaxial SmA phase formed by a highly biaxial compound," D. A. Olson, X. F. Han, A. Cady, W. Weissflog, and C. C. Huang, *Phys. Rev. Lett.* **88**, 085504 (2002).
157. "Unusual thickness-dependent heat-capacity anomalies in free-standing hexatic liquid-crystal films," C. Y. Chao, C. R. Lo, P. J. Wu, T. C. Pan, M. Veum, C. C. Huang, V. Surendranath, and J. T. Ho, *Phys. Rev. Lett.* **88**, 085507 (2002).
158. "Interlayer structures of the chiral smectic liquid crystal phases revealed by resonant x-ray scattering," L. S. Hirst, S. J. Watson, H. F. Gleeson, P. Cluzeau, P. Barois, R. Pindak, J. Pitney, A. Cady, P. M. Johnson, C. C. Huang, A-M. Levelut, G. Srajer, J. Pollmann, W.

- Caliebe, A. Seed, M. R. Herbert, J. W. Goodby, and M. Hird, *Phys. Rev. E* **65**, 041705 (2002).
159. "Resonant x-ray scattering studies of the B2 phase formed by bent-core molecules," A. Cady, R. Pindak, W. Caliebe, P. Barois, W. Weissflog, H. T. Nguyen, and C. C. Huang, *Liq. Cryst.* **29**, 1101 (2002).
 160. "Molecular orientation arrangements in the smectic-C* variant liquid-crystal phases," D. A. Olson, X. F. Han, A. Cady, and C. C. Huang, *Phys. Rev. E* **66**, 021702 (2002).
 161. "Nonplanar structure of molecular tilt planes in the surface layers of smectic-A free-standing liquid crystal films," X. F. Han, D. A. Olson, A. Cady, D. R. Link, N. A. Clark, and C. C. Huang, *Phys. Rev. E* **66**, 040701 (2002).
 162. "Determination of symmetry and molecular arrangements of free-standing liquid crystal films using null-transmission ellipsometry," D. A. Olson, X. F. Han, P. M. Johnson, A. Cady, and C. C. Huang, *Liq. Cryst.* **29**, 1521 (2002).
 163. "In-fiber nematic liquid crystal optical modulator based on in-plane switching with microsecond response time," B. R. Acharya, K. W. Baldwin, R. A. MacHarrie, J. A. Rogers, C. C. Huang, and R. Pindak, *Appl. Phys. Lett.* **81**, 5243 (2002).
 164. "Effect of enantiomeric excess on surface structures and phase sequences in free-standing liquid-crystal films," A. Cady, Z. Q. Liu, X. F. Han, S. T. Wang, M. Veum, N. Janarthanan, S. C. Hsu, D. A. Olson, and C. C. Huang, *Phys. Rev. E* **66**, 061704 (2002).
 165. "In-line liquid-crystal microcell polarimeter for high-speed polarization analysis," B. R. Acharya, C. K. Madsen, K. W. Baldwin, R. A. MacHarrie, J. A. Rogers, C. C. Huang, and R. Pindak *Opt. Lett.* **28**, 1096 (2003).
 166. "Double reentrance of surface arrangements in free-standing liquid-crystal films," X. F. Han, S. T. Wang, A. Cady, M. D. Radcliffe, and C. C. Huang, *Phys. Rev. Lett.* **91**, 045501 (2003).
 167. "Optical characterization of a nano-scale incommensurate pitch in a new liquid-crystal phase," A. Cady, X. F. Han, D. A. Olson, H. Orihara, and C. C. Huang, *Phys. Rev. Lett.* **91**, 125502 (2003).
 168. "In-line liquid-crystal microcell wave plates and their application for high-speed, reset-free polarization mode dispersion compensation in 40-Gbit/s systems," B. R. Acharya, L. Moller, K. W. Baldwin, R. A. MacHarrie, R. A. Stepnoski, C. C. Huang, R. Pindak, and J. A. Rogers, *Appl. Opt.* **42**, 5407 (2003).
 169. "Thermal parameters critical behavior at the smectic-A-hexatic-B and smectic-A-smectic-C phase transitions in liquid crystal," F. Mercuri, M. Marinelli, U. Zammit, C. C. Huang, and D. Finotello, *Phys. Rev. E* **68**, 051705 (2003).
 170. "A unique approach to measuring temperature variation of surface tension in smectic liquid crystals," M. Veum, P. Messman, Z. Q. Liu, C. C. Huang, N. Janarthanan and C. S. Hsu, *Rev. Sci. Instrum.* **74**, 5151 (2003).
 171. "Optical studies on free-standing films of an achiral smectic liquid crystal," X. F. Han, S. T. Wang, A. Cady, Z. Q. Liu, S. Findeisen, W. Weissflog, and C. C. Huang, *Phys. Rev. E* **68**, 060701 (2003).
 172. "Unusual behavior of the surface-induced tilted layers in free-standing films of a non-layer-shrinkage liquid crystal compound," S. T. Wang, X. F. Han, Z. Q. Liu, A. Cady, M. D. Radcliffe, and C. C. Huang, *Phys. Rev. E* **68**, 060702 (R) (2003).

173. "Tunable optical fiber devices based on broadband long-period gratings and pumped microfluidics," B. R. Acharya, T. Krupenkin, S. Ramachandran, Z. Wang, C. C. Huang, and J. A. Rogers, *Appl. Phys. Lett.* **83**, 4912 (2003).
174. "Optical, resonant x-ray scattering, and calorimetric investigations of two liquid-crystal compounds exhibiting the SmA-SmC_α*-SmC* transitions," C. C. Huang, Z. Q. Liu, A. Cady, R. Pindak, W. Caliebe, P. Barois, H. T. Nguyen, K. Ema, K. Takekoshi, and H. Yao, *Liq. Cryst* **31**, 127 (2004).
175. "Experimental investigations of one liquid-crystal compound exhibiting the no-layer-shrinkage effect near the SmA-SmC* transition," C. C. Huang, S. T. Wang, X. F. Han, A. Cady, R. Pindak, W. Caliebe, K. Ema, K. Takekoshi, and H. Yao, *Phys. Rev. E* **69**, 041702 (2004).
176. "Thermal positioning of point defects in smectic films: the thermal tweezer," M. Veum, P. Messman and C. C. Huang, *Liq. Cryst.* **31**, 1251 (2004).
177. "Optical investigations on the biaxial smectic-A phase of a bent-core compound," S. T. Wang, X. F. Han, A. Cady, Z. Q. Liu, A. Kamenev, L. Glazman, B. K. Sadashiva, R. Amaranatha Reddy, and C. C. Huang, *Phys. Rev. E* **70**, 061705 (2004).
178. "Temperature variation of film tension above the bulk smectic-A-isotropic transition in freestanding liquid-crystal films," M. Veum, E. Kutschera, N. Voshell, S. T. Wang, S. L. Wang, H. T. Nguyen, and C. C. Huang, *Phys. Rev. E* **71**, 020701(R) (2005).
179. "Calorimetric investigations of liquid-crystal compounds exhibiting almost no-layer shrinkage behavior through the SmA-SmC* transition," K. Ema, K. Takekoshi, H. Yao, S. T. Wang, and C. C. Huang, *Phys. Rev. E* **71**, 031706 (2005).
180. "Optical studies on the smectic-C1 and smectic-C2 phases of meta-substituted three-ring liquid crystal compounds," S. T. Wang, S. L. Wang, X. F. Han, Z. Q. Liu, S. Findeisen, W. Weissflog, and C. C. Huang, *Liq. Cryst.* **32**, 609 (2005).
181. "Biaxiality and temperature dependence of 3- and 4-layer intermediate smectic-phase structures as revealed by resonant x-ray scattering," N. W. Roberts, S. Jaradat, L. S. Hirst, M. S. Thurlow, Y. Wang, S. T. Wang, Z. Q. Liu, C. C. Huang, J. Bai, R. Pindak, and H. F. Gleeson, *Europhys. Lett.* **72**, 976 (2005).
182. "Optical and resonant x-ray diffraction studies confirm a SmC_{F12}*-SmC* liquid crystal phase sequence reversal," S. T. Wang, Z. Q. Liu, B. K. McCoy, R. Pindak, W. Caliebe, H. T. Nguyen, and C. C. Huang, *Phys. Rev. Lett.* **96**, 097801 (2006).
183. "Surface-induced multiple reentrant transitions," B. K. McCoy, Z. Q. Liu, S. T. Wang, V. P. Panov, J. K. Vij, J. W. Goodby, and C. C. Huang, *Phys. Rev. E* **73**, 041704 (2006).
184. "Reflection symmetry breaking in achiral rod-shaped smectic liquid crystals?" D. M. Walba, E. Korblova, C. C. Huang, R. Shao, M. Nakata, and N. A. Clark, *J. Am. Chem. Soc.* **128**, 5318 (2006).
185. "The role of molecular weight and phase sequence in the temperature variation of film tension above the bulk isotropic transition in freestanding liquid crystal films," M. P. Veum, M. K. Blees, N. Voshell, H. T. Nguyen, and C. C. Huang, *Phys. Rev. E* **74**, 011703 (2006).
186. "Investigations of nano-scale helical pitch in SmC_α* and SmC* phases of a chiral smectic liquid crystal using differential optical reflectivity measurements," V. P. Panov, B. K. McCoy, Z. Q. Liu, J. K. Vij, J. W. Goodby, and C. C. Huang, *Phys. Rev. E* **74**, 011701 (2006).

187. "Optical studies on the surface induced tilted layers in freestanding films of two no-layer-shrinkage liquid crystal compounds," S.T. Wang, X.F. Han, Z.Q. Liu, B. McCoy, and C.C. Huang, *Phys. Rev. E* **74**, 031707 (2006).
188. "Smectic- C_{α}^* -smectic-C* phase transition and critical point in binary mixtures," Z. Q. Liu, S. T. Wang, B. K. McCoy, A. Cady, R. Pindak, W. Caliebe, K. Takekoshi, K. Ema, H. T. Nguyen, and C. C. Huang, *Phys. Rev. E* **74**, 030702 (R) (2006).
189. "Sm C_{α}^* phase with two coexistent pitch values and a first order Sm C_{α}^* -SmC* transition," B. K. McCoy, Z. Q. Liu, S. T. Wang, R. Pindak, K. Takekoshi, K. Ema, A. Seed, and C. C. Huang, *Phys. Rev. E* **75**, 051706 (2007).
190. "Unique pitch evolution in the smectic- C_{α}^* phase," Z. Q. Liu, B. K. McCoy, S. T. Wang, R. Pindak, W. Caliebe, P. Barois, P. Fernandes, H. T. Nguyen, C. S. Hsu, Shun Wang, and C. C. Huang, *Phys. Rev. Lett.* **99**, 077802 (2007).
191. "Polarization studies of resonant "Forbidden" reflections in liquid crystals" P. Fernandes, P. Barois, S. T. Wang, Z. Q. Liu, B. K. McCoy, C. C. Huang, R. Pindak, W. Caliebe, and H. T. Nguyen, *Phys. Rev. Lett.* **99**, 227801 (2007).
192. "Deduction of the temperature-dependent structure of the four-layer intermediate smectic phase using resonant x-ray scattering," P. D. Brimicombe, N.W. Roberts, S. Jaradat, C. Southern, S.T. Wang, C.C. Huang, E. DiMasi, R. Pindak, and H.F. Gleeson, *Eur. Phys. J. E* **23**, 281 (2007).
193. "Probing orientational order of liquid crystals," S. Jaradat, P. Brimicombe, C. Southern, S. Siemianowski, E. DiMasi, M. Osipov, R. Pindak, H.F. Gleeson, Z.Q. Liu, B.K. McCoy, S.T. Wang, W. Caliebe, P. Barois, P. Fernandes, H.T. Nguyen, C.S. Hsu and C.C. Huang, NSLS Science Highlight, April 1, (2008)
194. "Effects of doping on an unusual smectic- C_{α}^* -smectic- C_{FI2}^* -smectic-C* phase sequence," B.K. McCoy, Z.Q. Liu, S.T. Wang, Lidong Pan, Shun Wang, H.T. Nguyen, R. Pindak and C.C. Huang, *Phys. Rev. E* **77**, 061704 (2008).
195. "Recovery of a reversed phase sequence in one ternary mixture system," Shun Wang, LiDong Pan, B. K. McCoy, S. T. Wang, R. Pindak, H. T. Nguyen, and C. C. Huang, *Phys. Rev. E* **79**, 021706 (2009).
196. "Surface induced ordering effect in one antiferroelectric liquid crystal compound," LiDong Pan, Shun Wang, C. S. Hsu, and C. C. Huang, *Phys. Rev. E* **79**, 031704 (2009).
197. "Nonplanar tilts in very thin smectic films of one liquid crystal compound," B.K. McCoy, Z. Q. Liu, S. T. Wang, Lidong Pan, Shun Wang, J. W. Goodby, and C. C. Huang, *Phys. Rev. E.* **79**, 061702 (2009).
198. "Comparison between experiment and theory in the temperature variation of film tension above the bulk isotropic transition in freestanding liquid crystal films," M. Veum, L. Duelle, J. Droske, H.T. Nguyen, C.C. Huang, and L.V. Mirantsev, *Phys. Rev. E.* **80**, 031707 (2009).
199. "Thickness dependent phase behavior of antiferroelectric liquid crystal films," LiDong Pan, Shun Wang, C. S. Hsu, and C. C. Huang, *Phys. Rev. Lett.* **103**, 187802 (2009).
200. "Discovery of a novel smectic-C* liquid crystal phase with six-layer periodicity," Shun Wang, LiDong Pan, R. Pindak, Z.Q. Liu, H. T. Nguyen, and C. C. Huang, *Phys. Rev. Lett.* **104**, 027801 (2010).

201. "Evolution of a rare sequence of surface transitions with temperature and film thickness," B.K. McCoy, Lidong Pan, Z. Q. Liu, S. T. Wang, Shun Wang, J. W. Goodby, and C. C. Huang, *Phys. Rev. E* **81**, 031712 (2010).
202. "Surface and bulk uniaxial to biaxial smectic-A transition in a bent core liquid crystal," LiDong Pan, B.K. McCoy, Shun Wang, Wolfgang Weissflog, and C.C. Huang, *Phys. Rev. Lett.* **105**, 117802 (2010).
203. "Critical behavior at the SmC α^* -SmC* phase transition studied by high sensitivity DSC," Y. Sasaki, K. Aihara, K. Ema, H. Yao, and C. C. Huang, *Ferroelectrics* **395**, 60 (2010).
204. "Effect of enantiomeric excess on the phase behavior of antiferroelectric liquid crystal," LiDong Pan, B. K. McCoy, Shun Wang, Z.Q. Liu, S.T. Wang, R. Pindak, and C. C. Huang, *Phys. Rev. E* **83**, 060701(R) (2011).
205. "Surface induced reduction of twisting power in liquid crystal films," LiDong Pan and C. C. Huang, *Phys. Rev. E* **83**, 060702(R) (2011).
206. "Polarization periodicity in the B1 columnar phase determined by resonant x-ray scattering," C.L. Folcia, J. Ortega, J. Etxebarria, LiDong Pan, Shun Wang, C. C. Huang, V. Ponsinet, P. Barois, R. Pindak, and N. Gimeno, *Phys. Rev. E* **84**, 010701(R) (2011).
207. "Characterization of a chiral phase in an achiral bent-core liquid crystal by polarization studies of resonant x-ray forbidden reflections," V. Ponsinet, P. Barois, LiDong Pan, Shun Wang, C. C. Huang, S. T. Wang, R. Pindak, U. Baumeister, and W. Weissflog, *Phys. Rev. E* **84**, 011706 (2011).
208. "Surface aligning field in liquid crystal films," LiDong Pan and C. C. Huang, *Phys. Rev. E* **84**, 051703 (2011).
209. "Surface-surface interaction in smectic liquid crystal films," LiDong Pan, C.S. Hsu, and C.C. Huang, *Phys. Rev. Lett.* **108**, 027801 (2012).
210. "Resonant x-ray diffraction study of unusually large phase coexistence in smectic liquid crystal films," LiDong Pan, P. Barois, R. Pindak, Z. Q. Liu, B. K. McCoy, and C. C. Huang, *Phys. Rev. Lett.* **108**, 037801 (2012).
211. "Layer thinning transition in one bent shaped liquid crystal," M. K. Paul, B. Moth, L.D. Pan, S. Wang, R. K. Nath, R. Deb, N. V.S. Rao, and C. C. Huang, *Phase Transitions*, 1-9 (2012).
212. "Application of x-ray resonant diffraction to structural studies of liquid crystals," P. Barois, H. Gleeson, C.C. Huang and R. Pindak, *Eur. Phys. J. Special Topics* **208**, 333-350 (2012).
213. "Surface, bulk and two dimensional transitions in smectic liquid crystals," Lidong Pan, C. S. Hsu and C. C. Huang, submitted to *Phys. Rev. Lett.*, for publication.
214. "Thermal methods in liquid crystals," C. C. Huang, one chapter for "Handbook of Liquid Crystals" 2nd edition. Edited by J. W. Goodby, et al. (Wiley).

Patent:

1. "Liquid crystal polarization rotator and method" U. S. Patent No. 6,895,688