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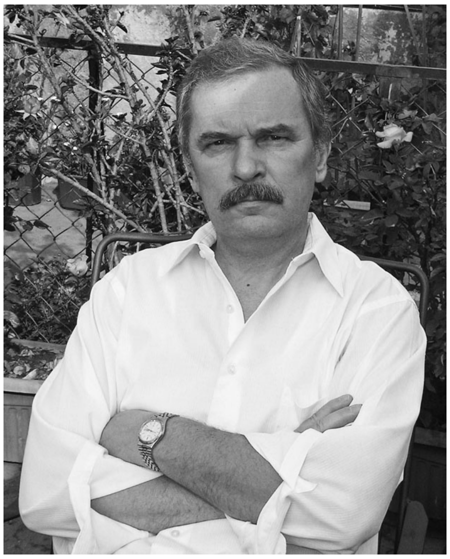
Foreword

Orest Pizio: scientist and friend



Orest Pizio was born in Lviv on January 30, 1952. After graduating from Ivan Franko Lviv State University in 1973, he started his scientific work at the Department of Statistical Theory of Condensed Systems of the Institute of Theoretical Physics, Ukrainian Academy of Sciences, under the leadership of Prof. Ihor Yukhnovskii. The Department grew later into Lviv Division of Statistical Physics of that Institute. Hard work and creative atmosphere were the principal keys of success of that entity due to his tutor and other young researchers. According to Orest, he learned and benefited much from the scientific interaction with his supervisor M. Holovko, as well as with his friends Yu. Rudavskii, I. Vakarchuk, V. Vysochanskii, P. Kostrobii, R. Petrashko, I. Kuryliak, I. Kopych, M. Kozlovskii, M. Korynevskii, H. Ponedilok, E. Sovyak. In 1976 he published his first work in the Ukrainian Physical Journal. In 1980 Orest Pizio received PhD degree from the Institute of Theoretical Physics at Kyiv, presenting the dissertation, entitled "Reference system approach in the collective variables method for ion-molecular systems", under supervision of Prof. I. Yukhnovskii and Prof. M. Holovko. Next decade he worked as a researcher and senior researcher. At that time Lviv Division, due to scientific successes, grew into the Institute of Condensed Matter Physics of the National Academy of Sciences of Ukraine. During these years Orest was developing his research on equilibrium properties of liquids and electrolyte solutions in a tight collaboration with M. Holovko. Both of them, O. Pizio and M. Holovko were supervisors of the Ph.D. thesis by Andriy Trokhymchuk (1985). Andriy became a close collaborator of Orest Pizio for many years to follow.

In 1993 he got fellowship at the Institute of Chemistry of the National University of Mexico (UNAM). His scientific work was appreciated by UNAM authorities and in a few years O. Pizio got at the Institute of Chemistry the top rank permanent position and highest level of the National System of Researchers. His prolific group at the Institute in late nineties of the last century included A. Trokhymchuk, A. Kovalenko, Yu. Duda, all from their Lviv cradle, as well as young Mexican researchers: B. Millan, A. Huerta, G. Anguiano and A. Martinez.

During more than 30 years of his scientific work he published more than 200 works and several chapters in monographs (the list of the most significant publications is presented below). The main field of O. Pizio's scientific activity is connected with the development of new statistical-mechanical approaches and computer simulations in the description of nonuniform fluids. The theoretical tools he uses in his work include integral equations (of the first and of the second-order), different density functional approaches and computer simulations. His research has covered a wide spectrum of scientific problems: description of uniform and nonuniform ionic fluids, polydisperse nonuniform fluids, investigation of structure and phase transitions in nonuniform associating fluids, development of new theoretical and simulation approaches in description of the so-called quenched-annealed systems, and thus, the confinement of fluids by strongly disordered porous solids. More recently his scientific interest has been shifted toward the description of adsorption and phase transitions in the systems involving polymeric fluids and polymers tethered at surfaces and in model pores. His main scientific achievements include description of (i) the effects of chemical association in partly-quenched fluids (or more specifically the associative version of the Replica Ornstein-Zernike and Mass of Action Law, in collaboration with M. Holovko and A. Trokhymchuk); (ii) screening and correlations between ions in quenched-annealed fluids with charges (with V. Vlachy and B. Hribar) and thermodynamics of adsorption, (iii) the effects of chemical association on adsorption and phase transitions of fluids in pores of different geometry (with S. Sokołowski) (iv) phase diagram of RPM under confinement in pores and the temperature dependence of capacitance (with S. Sokołowski). (v) phase transitions and phase behavior of single-component and fluid mixtures in pores with tethered chains (with S. Sokołowski et al.).

He has been collaborating with scientists from numerous countries: Czech Republic, Hungary, Poland, Spain, Ukraine, USA, as well as with Mexican scientists. Several researchers worldwide have been either in direct contact with him or related through their supervisors or colleagues. Orest has always given his students, collaborators and visitors his unconditional support. He served and serves to scientific community as a member and secretary of the organizing committees of several successful conferences and congresses, like International School on Ionic Solvation and Soviet - Italian Symposium on selected problems of mathematical physics in Ukraine, Applied Statistical Physics in Mexico, International Symposium on the Effects of Surface Heterogeneity in Adsorption and Catalysis on Solids in Poland between the others. Other related activities include membership in the Editorial Board of the journal “Ciencia” of the National University of Nuevo Leon in Mexico, reviewing grants of American Petroleum Research Fund of the American Chemical Society and referring for several leading journals.

Orest is a very intelligent and attractive personality. Apart from science he dedicated almost two decades of his life to hiking and mountaineering after his university studies. He served as a guide and was a participant and a chief of schools for guides in the mountains of Caucasus, Altai, Pamir, Tian Shan and Siberia. He also enjoys music, modern arts and literature. The Editorial Board of “Condensed Matter Physics” congratulates our good friend and a member of the Editorial Board on the occasion of his birthday anniversary and acknowledges his unique and valuable contribution to science. We also wish him to stay in good health, be happy and prosperous.

Finally, we wish to thank the authors who sent papers to this issue and acknowledge that many others could not send them in spite of having wished to do so. Furthermore, we sincerely apologize for any omissions.

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Main publications

1. Golovko M.F., Pizio O.A., Reference system approach for the short-range interactions in the theory of ionic systems, Ukrainian Physical Journal, 1976, **21**, 653–661.
2. Golovko M.F., Pizio O.A., An investigation of binary distribution functions for ionic systems, Ukrainian Physical Journal, 1981, **26**, 1811–1816.
3. Golovko M.F., Pizio O.A., Trokhymchuk A.D., Investigation of the screening potentials and binary distribution functions of dipole systems, Ukrainian Physical Journal, 1982, **27**, 126–129.
4. Golovko M.F., Pizio O.A., Static dielectric function of simple ionic systems, Proc. Ukrainian Academy of Sciences, ser. A, 1983, Iss. 2, 47–49.
5. Golovko M.F., Pizio O.A., Trokhymchuk A.D., Thermodynamic properties of nonsymmetric ionic systems, Ukrainian Physical Journal, 1983, **28**, 1014–1021.
6. Golovko M.F., Pizio O.A., Trokhymchuk A.D., Investigation of binary distribution functions of ionic melts. Approximation of the second cluster integral, Ukrainian Physical Journal, 1985, **30**, 734–739.
7. Golovko M.F., Pizio O.A. On the structure properties of ion-molecular systems near charged hard wall – In: Proc. of the International Conf. on Electrified Interfaces, Telaviv, Tbilisi, Metsniereba Publ., 1986, 187–197.
8. Pizio O.A., Holovko M.F., Trokhimchuk A.D., The pair distribution functions and thermodynamic properties of the ion-dipole model of electrolyte solutions, Acta Chimica Hungarica, 1988, **125**, 385–402.
9. Pizio O.A., Holovko M.F., Trokhimchuk A.D., On the application of the ion-dipole model to the calculation of the pair correlation functions of electrolyte solutions, Acta Chimica Hungarica,1989, **126**, 111–116.
10. Ruff I., Baranyai A., Pizio O.A., Modelling molten CuCl and AgJ in the mean spherical approximation, Chem. Phys. Lett., 1988, **150**, 473–477.
11. Golovko M.F., Blotsky S.N., Pizio O.A., On the application of optimized cluster series for the description of the electrolyte model near a charged hard wall, Electrochim. Acta, 1989, **34**, 63–66.
12. Pizio O.A., Protsykevytch I.A., Pusztai L., et al. Iterative procedure of the optimized cluster series calculation for the model of ionic melt, Rasplavy (Melts), 1990, Iss. 3, 10, Sverdlovsk , Academy of Sciences of the USSR.
13. Pizio O.A., Halytch Z.B. Structural properties of the ion-dipole model of electrolyte solutions in the bulk and near a charged hard wall, Z. Naturforsch., A: Phys. Sci., 1991, **46**, 8–18.
14. Holovko M.F., Pizio O.A., Halytch Z.B., On the probability density of solvent molecule orientation for the ion-dipole model of the electric double layer, Electrochim. Acta, 1991, **36**, 1715–16.
15. Trokhymchuk A.D., Pizio O.A. Structural properties of the molten fast ion conductors with silver cations by the integral equations method. – In: Systems with Fast Ion Transport, vol. 76 of Material Science Forum (TransTech. Publ.), eds. Schuster G., Kunstler K., Ullman H., 1991, p. 57–60.
16. Pizio O.A. On the simple derivation of approximate integral equations for triplet and higher-order distribution functions of homogeneous fluids., Mol. Phys., 1992, **77**, 1011–1017.
17. Pizio O., Pusztai L., Triplet correlations in the molten phase of Ag_2Se superionic conductor, Chem. Phys. Lett., 1993, **214**, 125–128.
18. Haymet A.D.J., Pizio O.A., Henderson D., Integral equations for the correlation functions of fluids near walls, Condens. Matter Phys., 1993, No. 2, 35–43.
19. Pizio O.A., Holovko M.F., Haymet A.D.J., Henderson D., Integral equation for the triplet and higher-order distribution functions of fluids, J. Mol. Liq., 1993, **58**, 101–115.
20. Pizio O.A. Analytic solution of the restricted primitive model of electrolyte solutions with double sticky interaction between the oppositely charged ions, J. Chem. Phys., 1994, **100**, 548—555.
21. Pizio O., Quintana J., On the static dielectric function of the sticky electrolyte model, J. Chem. Phys., 1994, **100**, 4039–4042.
22. Pizio O., Henderson D., Sokolowski S., Density profiles of chemically reacting simple fluids near impenetrable surfaces, J. Phys. Chem., 1995, **99**, 2408–2411.
23. Pizio O., Quintana J., Association effects and static dielectric properties of the sticky electrolyte models, Acta Chimica Hungarica, 1995, **132**, 111–123.
24. Pizio O., Blum L., Analytic solution of the mean spherical approximation for a dipolar hard spheres with intracore anisotropic sticky interactions, Phys. Rev. E, 1995, **52**, 572–579.

25. Pizio O., Henderson D., Sokolowski S., Density profiles of chemically reacting fluids in contact with a spherical impenetrable colloid particle, J. Colloid Interface Sci., 1995, **173**, 254–256.
26. Henderson D., Sokolowski S., Pizio O., Density profiles of a model of associating hard spheres in contact with a crystalline surface: an integral equation approach, J. Chem. Phys., 1995, **102**, 9048–9058.
27. Kalyuzhnyi Yu.V., Pizio O., Sokolowski S., Density profiles of one component shielded sticky point fluid near a hard wall, Chem. Phys. Lett., 1995, **242**, 297–303
28. Pizio O., Trokhymchuk A.D., Sokolowski S., Density profiles of a double square-well model of a chemically associating fluid near a hard wall, Mol. Phys., 1995, **86**, 649–664.
29. Henderson D., Sokolowski S., Trokhymchuk A., Pizio O., Density profiles of associating fluid near a hard wall: PY/EMSA and HNC/EMSA singlet theory, Physica A, 1995, **220**, 24–32.
30. Henderson D., Sokolowski S., Pizio O., Density profiles of chemically reacting fluid adsorbed on the graphite basal plane, Czech. J. Phys., 1996, **46**, 67–83.
31. Trokhymchuk A., Pizio O., Sokolowski S., Solvation force for an associative fluid in a slitlike pore, J. Colloid Interface Sci., 1996, **178**, 436–441.
32. Pizio O., Sokolowski S., Model for an associating fluids near an associatively adsorbing crystal surface, Phys. Rev. E, 1996, **53**, 820–824.
33. Trokhymchuk A., Pizio O., Henderson D., Sokolowski S., Density profiles for a dimerizing fluid near an associatively adsorbing hard wall: A Monte Carlo study, Mol. Phys., 1996, **88**, 1491–1502.
34. Trokhymchuk A., Pizio O., Henderson D., Sokolowski S., Density profiles for a model of localized site adsorption of dimerizing fluid on crystalline surfaces. Integral equation study, J. Phys. Chem., 1996, **100**, 5941–5948.
35. Kovalenko A.F., Pizio O., Henderson D., Sokolowski S., An associating fluid in slitlike crystalline pore: Density profiles of the shielded sticky point model, J. Colloid Interface Sci., 1996, **182**, 407–417.
36. Henderson D., Patrykiejew A., Pizio O., Sokolowski S., Adsorption of dimerizing fluids in disordered porous networks, Physica A, 1996, **233**, 67–76.
37. Trokhymchuk A., Pizio O., Henderson D., Sokolowski S., The reference inhomogeneous Percus-Yevick approximation for a dimerizing fluid near a hard wall, Chem. Phys. Lett., 1996, **262**, 33–40.
38. Trokhymchuk A., Pizio O., Holovko M., Sokolowski S., Adsorption of fluids in disordered porous media from the multidensity integral equation theory. Associative analogue of the Madden-Glandt Ornstein-Zernike approximation, J. Phys. Chem., 1996, **100**, 17004–17010.
39. Kovalenko A., Pizio O., Henderson D., Sokolowski S., Chemical equilibrium in a solution of a dimerizing fluid in a hard sphere solvent. Associative Percus-Yevick approximation, Chem. Phys. Lett., 1996, **260**, 352–358.
40. Henderson D., Pizio O., Sokolowski S., Trokhymchuk A., The nonuniform Wertheim Ornstein-Zernike equation: Density profiles and pair correlation functions of a dimerizing hard spheres near a hard wall, Physica A, 1997, **244**, 147–163.
41. Trokhymchuk A., Pizio O., Holovko M., Sokolowski S., Associative Replica Ornstein-Zernike equations and the structure of chemically reacting fluids in porous media, J. Chem. Phys., 1997, **106**, 200–209.
42. Henderson D., Sokolowski S., Pizio O., Models for site adsorption of an associating fluid on crystalline surfaces, Langmuir, 1997, **13**, 1162–1167.
43. Bryk P., Patrykiejew A., Pizio O., Sokolowski S., A method for determination of chemical potential of associating fluids, Mol. Phys., 1997, **90**, 483–487.
44. Henderson D., Huerta A., Pizio O., Trokhymchuk A., Monte Carlo study of the two-dimensional chemically associating fluids, Mol. Phys., 1997, **90**, 571–579.
45. Anguiano Orozco G., Pizio O., Sokolowski S., Trokhymchuk A., Replica Ornstein-Zernike theory for chemically associating fluids with directional forces in disoredered porous media: Smith-Nezbeda model in a hard sphere matrix, Mol. Phys., 1997, **91**, 625–634.
46. Kovalenko A., Pizio O., Henderson D., Solvent effects on the dimerization equilibria in Lennard-Jones mixtures. Application of Wertheim's theory of association, J. Phys. Chem. B, 1997, **101**, 3571–3580.
47. Pizio O., Trokhymchuk A., Henderson D., Labik S., Adsorption of a hard sphere fluid in disordered polymerizing matrix: Application of the replica Ornstein-Zernike equations, J. Colloid Interface Sci., 1997, **191**, 86–94.
48. Henderson D., Kovalenko A., Pizio O., Wasan D., The effective interaction between colloidal hard sphere particles in a polymerizing solvent: Application of Wertheim's theory of association, Physica A, 1997, **245**, 276–296.

49. Duda Yu., Trokhymchuk A., Sokolowski S., Pizio O., Monte Carlo study of two-dimensional polymerizing fluids, J. Coll. Interface Sci., 1997, **194**, 68–77.

50. Pizio O., Sokolowski S., Adsorption of fluids in confined disordered media from inhomogeneous replica ornstein-zernike equations, Phys. Rev. E, 1997, **56**, R63–66.

51. Bryk P., Pizio O., Sokolowski S., Second-order integral equations for Lennard-Jones associating fluids, J. Chem. Soc., Faraday Transactions, 1997, **93**, 2367–2372.

52. Hribar B., Pizio O., Trokhymchuk A., Vlachy V., Screening of ion-ion correlations in electrolyte solutions adsorbed in electroneutral disordered matrices of charged particles. Application of Replica Ornstein-Zernike equations, J. Chem. Phys., 1997, **107**, 6335–6341.

53. Batina N., Huerta A., Pizio O., Sokolowski S., Trokhymchuk A., A primitive model for hexamethylpararosaniline (crystal violet) monomolecular adlayer. A Monte Carlo simulation study, J. Electroanal. Chem., 1998, **450**, 213–223.

54. Duda Y., Henderson D., Millan-Malo B., Pizio O., Equilibrium partitioning of a dimerizing fluid through a microporous solid. A Monte Carlo study of the density distributions and adsorption isoterms, J. Phys. Chem. B, 1997, **101**, 10680–10687.

55. Kovalenko A., Sokolowski S., Henderson D., Pizio O., Adsorption of a hard sphere fluid in a slitlike pore filled with a disoredered matrix by the inhomogeneous replica Ornstein-Zernike equations, Phys. Rev. E, 1998, **57**, 1824–1831.

56. Duda Y., Henderson D., Pizio O., Wasan D., Replica Ornstein-Zernike equations and simulations of the structure of a simple fluid in disordered porous media. Application to monomolecular adsorption, J. Phys. Chem. B, 1998, **102**, 1562–1569.

57. Duda Y., Henderson D., Pizio O., Wasan D., Replica Ornstein-Zernike equations and simulations of the structure of a simple fluid mixture in disordered porous media. Application to a composite monomolecular adlayer, Mol. Phys., 1998, **94**, 341–348.

58. Padilla P., Pizio O., Trokhymchuk A., Vega C., Adsorption of dimerizing and dimer fluids in disordered porous media, J. Phys. Chem. B, 1998, **102**, 3012–17.

59. Kovalenko A., Pizio O., The structure and adsorption of the four bonding sites model for associating fluids in disordered porous media from replica Ornstein-Zernike integral equation theory, J. Chem. Phys., 1998, **108**, 8651–8661.

60. Millan Malo B., Bryk P., Duda Yu., Pizio O., A two-dimensional model for equilibrium partitioning of a fluid mixture through a microporous semipermeable crystalline mebrane, J. Colloid Interface Sci., 1998, **204**, 112–118.

61. Bryk P., Pizio O., Sokolowski S., A hard sphere fluid in equilibrium with microporous membranes. Inhomogeneous replica Ornstein-Zernike equations and grand canonical Monte Carlo simulations, Mol. Phys., 1998, **95**, 311–317.

62. Henderson D., Pizio O., Trokhymchuk A., Sokolowski S., The structure of Lennard-Jones dimerizing spheres near a hard wall from the nonuniform Wertheim-Ornstein-Zernike equation, Czech. J. Phys., 1998, **48**, 925–932.

63. Bryk P., Pizio O., Sokolowski S., Adsorption of a hard sphere fluid in a slitlike pore with molecularly rough walls, J. Chem. Phys., 1998, **109**, 2310–2315.

64. Hribar B., Pizio O., Trokhymchuk A., Vlachy V., Ion-ion correlations in electrolyte solutions adsorbed in disordered electroneutral charged matrices from replica Ornstein-Zernike equations, J. Chem. Phys., 1998, **109**, 2480–2489.

65. Duda Yu., Sokolowski S., Bryk P., Pizio O., Structure and adsorption of a hard sphere fluid in a cylindrical and spherical pore filled by a disordered matrix. A Monte Carlo study, J. Phys. Chem. B., 1998, **102**, 5490–94.

66. Sokolowski S., Pizio O., Born-Green-Yvon approach to the local densities of a simple fluid in a slitlike pore filled with a quenched disordered matrix, Phys. Rev. E, 1998, **58**, 2652–2655.

67. L. Perez A., Sokolowski S., Pizio O., Capillary condensation of Lennard-Jones fluid in a slitlike pore filled with quenched disordered matrix, J. Chem. Phys., 1998, **109**, 1147–1151.

68. Padilla P., Vega C., Pizio O., Trokhymchuk A., The structure and adsorption of diatomic fluids in disordered porous media. A Monte Carlo study, Mol. Phys., 1998, **95**, 701–712.

69. Ibarra Bracamontes L., Pizio O., Sokolowski S., Trokhymchuk A., Adsorption and the structure of a hard sphere fluid in disordered quenched microporous matrices of permeable species, Mol. Phys., 1999, **96**, 1341–1348.

70. Pizio O., Renugopalakrishnan V., A. Trokhymchuk; Partitioning of polymerizing fluids in random microporous media: Application of the replica Ornstein-Zernike equations, J. Colloid Interface Sci., 1999, **211**, 367–374.

71. Huerta A., Duda Yu., Pizio O., Wasan D., A two-dimensional model associating fluid with spherically symmetric intracore square-well shell. Integral equations and Monte Carlo simulation study, Mol. Phys., 1999, **96**, 795–804.

72. Duda Yu., Patrykiejew A., Pizio O., Sokolowski S., Density profiles of hard spheres in a cylinder filled with disordered matrix: application of the BGY equation, Physica A, 1999, **265**, 424–431.

73. Ilnytski Ja., Patrykiejew A., Sokolowski S., Pizio O., Replica Ornstein-Zernike equations for polydisperse quenched-annealed fluids. Hard spheres in a polydisperse disordered hard sphere matriz, J. Phys. Chem. B, 1999, **103**, 868–871.

74. Ilnytski Ja., Sokolowski S., Pizio O., Nematic-isotropic transition in a lattice model with quenched disordered impurities: A Monte Carlo study, Phys. Rev. E., 1999, **59**, 4161–4168.

75. Rzysko W., Pizio O., Sokolowski S., Structural properties of a two-dimensional model for partly quenched colloidal dispersions, Physica A, 1999, **273**, 241–247.

76. Sokolowski S., Rzysko W., Pizio O., Effective interactions in a quenched-annealed hard sphere mixture confined in a narrow slitlike pore, J. Colloid Interface Sci., 1999, **218**, 341–343.

77. Huerta A., Sokolowski S., Pizio O., Structure and phase transitions in a network-forming associating Lennard-Jones fluid in a slitlike pore: a density functional approach, Mol. Phys., 1999, **97**, 919–930.

78. Hribar B., Vlachy V., Trokhymchuk A., Pizio O., Structure and thermodynamics of asymmetric electrolytes adsorbed in disordered electroneutral charged matrices from replica Ornstein-Zernike equations, J. Phys. Chem. B, 1999, **103**, 5361–5369.

79. Patrykiejew A., Pizio O., Sokolowski S., Novel phase behavior in a two-dimensional network-forming lattice fluid, Phys. Rev. Lett., 1999, **83**, 3442–3445.

80. Huerta A., Sokolowski S., Pizio O., Phase transitions in an associating, network-forming, Lennard-Jones fluid in slitlike pores. II. Extension of the density functional method, J. Chem. Phys., 2000, **112**, 4286–4295.

81. Millan-Malo B., Huerta A., Pizio O., Sokolowski S., Phase behavior of associating two and four bonding sites Lennard Jones fluid in contact with solid surfaces, J. Phys. Chem. B, 2000, **104**, 7756–7763.

82. Huerta A., Bryk P., Pizio O., Sokolowski S., Application of the density functional method to study phase transitions in an associating Lennard Jones fluid adsorbed in energetically heterogeneous slit like pores, Mol. Phys., 2000, **98**, 1859–1869.

83. Millan Malo B., Salazar L., Sokolowski S., Pizio O., Application of the density functional method to study adsorption and phase transitions in two-site associating Lennard-Jones fluids in cylindrical pores, J. Phys. Condens. Matter, 2000, **12**, 8785–8800.

84. Pizio O., Patrykiejew A., Sokolowski S., Evaluation of liquid-vapor density profiles for associating fluids in pores from density functional theory, J. Chem. Phys., 2000, **113**, 10761–10767.

85. Pizio O., Patrykiejew A., Sokolowski S., Density functional approach to adsorption of a polydisperse fluid in slitlike pores, Mol. Phys., 2001, **99**, 57–63.

86. Millan Malo B., Pizio O., Patrykiejew A., Sokolowski S., Adsorption and phase transitions in a two-site model associating Lennard Jones fluid confined to energetically heterogeneous slitlike pores, J. Phys. Condens. Matter, 2001, **13**, 1361–1379.

87. Hribar B., Vlachy V., Pizio O., Equilibrium properties of a model electrolyte adsorbed in quenched disordered charged media: the ROZ theory and GCMC simulations, J. Phys. Chem. B, 2001, **105**, 4727–4734.

88. Patrykiejew A., Sokolowski S., Sokolowska Z., Pizio O., A simple model of adsorption by swelling porous materials: application of a density functional approach, J. Phys. Condens. Matter, 2001, **13**, 6151–6164.

89. Rzysko W., Sokolowski S., Pizio O., Theory of adsorption in a polydisperse templated porous materials. Hard sphere systems, J. Chem. Phys., 2002, **116**, 4286–4292.

90. Martinez A., Pizio O., Sokolowski S., Phase behavior of symmetric binary mixtures with partially miscible components in slitlike pores: density functional theory, J. Chem. Phys., 2003, **118**, 6008–6016.

91. Martinez A., Pizio O., Patrykiejew A., Sokolowski S., Phase behavior of symmetric binary mixtures with partially miscible components in slitlike pores. Application of the fundamental measure density functional approach, J. Phys. Condens. Matter, 2003, **15**, 2269–2283.

92. Martinez A., Patrykiejew A., Pizio O., Sokolowski S., Phase diagrams for a binary mixture confined in narrow slitlike pores with energetically heterogeneous walls from a lattice mean field approach, J. Phys. Condens. Matter, 2003, **15**, 3107–3119.

93. Patrykiejew A., Pizio O., Pusztai L., Sokolowski S., Effects of slitlike pore confinement on the closed loop immiscibility in symmetric binary model mixtures: fundamental measure density functional approach, Mol. Phys., 2003, **101**, 2219–2223.

94. Bucior K., Patrykiejew A., Sokolowski S., Pizio O., Liquid-liquid interface in a binary mixture of associating fluids exhibiting a closed loop immiscibility, Mol. Phys., 2003, **101**, 2233–2240.

95. Malijevski A., Pizio O., Patrykiejew A., Sokolowski S., Phase behavior of symmetric binary mixtures with partially miscible components in spherical pores. Density functional approach, J. Mol. Liq., 2004, **112**, 81–89.

96. Vlachy V., Dominguez H., Pizio O., Temperature effects in adsorption of a primitive model electrolyte in disordered quenched media: Predictions of the replica OZ/HNC approximation, J. Phys. Chem. B, 2004, **108**, 1046–1055.

97. Pizio O., Patrykiejew A., Sokolowski S., Phase behavior of ionic fluids in slit like pores: a density functional approach for the restricted primitive model, J. Chem. Phys., 2004, **121**, 11957–11964.

98. Duda Y., Pizio O., Sokolowski S., Nonadditive binary hard sphere mixture in disordered hard sphere matrices: Integral equations and computer simulation, J. Phys. Chem. B, 2004, **108**, 19442–19450.

99. Pizio O., Sokolowski S., Phase behavior of the restricted primitive model of ionic fluids with association in slitlike pores. Density functional approach, J. Chem. Phys., 2005, **122**, 114707.

100. Bryk P., Pizio O., Sokolowski S., Capillary condensation of short-chain molecules, J. Chem. Phys., 2005, **122**, 194904.

101. Reszko J., Sokolowski S., Pizio O., Temperature dependence of the double layer capacitance for the restricted primitive model. The effect of chemical association between unlike ions, J. Chem. Phys., 2005, **123**, 016101.

102. Pizio O., Bucior K., Patrykiejew A., Sokolowski S., Density functional theory for fluid mixtures of charged chain particles and spherical counterions in contact with charged hard wall. Adsorption, double layer capacitance and the point of zero charge, J. Chem. Phys., 2005, **123**, 214902.

103. de Leon A., Pizio O., Sokolowski S., Chemical potential of a hard sphere fluid in model disordered polydisperse matrices, J. Colloid Interface Sci., 2006, **298**, 306–312.

104. Pizio O., Sokolowski S., On the effects of ion-wall chemical association on the electric double layer: A density functional approach for the restricted primitive model at a charged wall, J. Chem. Phys., 2006, **125**, 024512.

105. Bryk P., Sokolowski S., Pizio O., Density functional theory for inhomogeneous associating chain fluids, J. Chem. Phys., 2006, **125**, 024909.

106. Pizio O., Patrykiejew A., Sokolowski S., Phase behavior of Lennard-Jones fluids in slitlike pores with walls modified by preadsorbed molecules: A density functional approach, J. Phys. Chem. C, 2007, **111**, 15743–15751.

107. Pizio O., Borowko M., Rzysko W., Staszewski T., Sokolowski S., Phase behavior of a fluid with walls modified by preadsorbed chain molecules, J. Chem. Phys., 2008, **128**, 044702.

108. Smagala T., Patrykiejejw A., Sokolowski S., Pizio O., Fawcett W.R., Restricted primitive model for electrolyte solutions in contact with solid surface modified by grafted chains: A density functional approach, J. Chem. Phys., 2008, **128**, 024907.

109. Pusztai L., Harsanyi I., Dominguez H., Pizio O., Assessing the level of consistency between diffraction experiments and interaction potentials: a combined molecular dynamics (MD) and Reverse Monte Carlo (RMC) approach, Chem. Phys. Lett., 2008, **457**, 96–102.

110. Rzysko W., Pizio O., Patrykiejew A., Sokolowski S., Phase diagram of a square-shoulder square-well fluid revisited, J. Chem. Phys., 2008, **129**, 124502.

111. Pusztai L., Pizio O., Sokolowski S., Comparison of interaction potentials of liquid water with respect to their consistency with neutron diffraction data of pure heavy water, J. Chem. Phys., 2008, **129**, 184103.

112. Pizio O., Pusztai L., Sokolowska Z., Sokolowski S., Solvation force between surfaces modified by tethered chains: a density functional approach, J. Chem. Phys., 2009, **130**, 134501.

113. Pizio O., Dominguez H., Duda Y., Sokolowski S., Microscopic structure and thermodynamics of a core-softened model fluid: Insights from grand canonical Monte Carlo simulations and integral equations theory, J. Chem. Phys., 2009, **130**, 174504.

114. Pizio O., Dominguez H., Pusztai L., Sokolowski S., A core-softened fluid model in disordered porous media. Grand canonical Monte Carlo simulation and integral equations, Physica A, 2009, **388**, 2278–2288.

115. Pizio O., Sokolowski S., Entropic solvation force between surfaces modified by grafted chains: a density functional approach, Condens. Matter Phys., 2010, **13**, 13602.

116. Rzysko W., Patrykiejew A., Sokolowski S., Pizio O., Phase behavior of a two dimensional and confined in slitlike pores square-shoulder, square-well fluid, J. Chem. Phys., 2010, **132**, 164702.

117. Pizio O., Sokolowski S., Sokolowska Z., Phase behavior of binary symmetric mixtures in pillared slitlike pores: A density functional approach, J. Chem. Phys., 2011, **134**, 214702.

118. Patrykiejew A., Sokolowski S., Pizio O., The liquid-vapor interface of the restricted primitive model of ionic fluids from a density functional approach, Condens. Matter Phys., 2011, **14**, 13603.

119. Luksic M., Hribar-Lee B., Pizio O., Structural and thermodynamic properties of the restricted primitive model electrolyte in a mixture with uncharged hard spheres: a grand canonical Monte Carlo simulation and integral equation study, Mol. Phys., 2011, **109**, 893—904.

120. Luksic M., Hribar-Lee B., Baleon Tochimani S., Pizio O., Solvent primitive model for electrolyte solutions in disordered porous matrices of charged species. Replica Ornstein-Zernike theory and grand canonical Monte Carlo simulations, Mol. Phys., 2012, **110**, 17–30.

Contributions, Chapters, Review articles

121. Holovko M., Kuryliak I., Pizio O., Sovjak E., On the reference account of interactions in the statistical theory of ion – molecular systems – In: Problems of Contemporary Statistical Physics, ed. N.N. Bogoliubov, Kiev, Naukova Dumka, 1985 (in Russian).

122. Pizio O., Trokhymchuk A., Anguiano G., Bautista E., Huerta A. – In: Computational Chemistry and Chemical Engineering, eds. G. Cisneros, J.A. Cogordan, M. Castro and C. Wang. World Scientific, 1997.

123. Borowko M., Sokolowski S., Pizio O., Inhomogeneous associating fluids – In: Computational Methods in Surface and Colloid Science, ed. M. Borowko. Marcel Dekker, New York, p. 167–243, 2000.

124. Pizio O., Adsorption in random porous media – In: Computational Methods in Surface and Colloid Science, ed. M. Borowko. Marcel Dekker, New York, p. 293–345, 2000.

125. Sokolowski S., Pizio O., Thin fluid films – In: Encyclopedia of Colloid Science, ed. A. Hubbard, second edition. Marcel Dekker, New York, 2006.

126. Pizio O., Sokolowski S., Advances in the theoretical description of solid — electrolyte solution interfaces – In: Solid State Electrochemistry, vol. 2, ed. V. Kharton. Wiley VCH, 2010.

127. Patrykiejew A., Sokolowski S., Pizio O., Statistical Surface Thermodynamics. Wiley VCH (in press).

128. Pizio O., Sokolowski S., Application of the continuum replica methodology for the description of structrure and thermodynamics of quenched-annealed fluid systems, J. Phys. Stud., 1998, **2**, 296–321.