

TABLE OF CONTENTS

Part I: General Issues

Asteroid impact in the black sea; a black scenario <i>R. D. Schuiling, R. B. Cathcart, V. Badescu.....</i>	1
The conductivity of hydrogen in extreme conditions <i>V. T. Shvets, S. V. Savenko, J. K. Malynovski.....</i>	9
Dynamic crossover and liquid–liquid critical point in the TIP5P model of water <i>P. Kumar, S. V. Buldyrev, H. E. Stanley.....</i>	23
Amorphization of ice by collapse under pressure, vibrational properties, and ultraviscous water at 1 GPa <i>G. P. Johari, O. Andersson.....</i>	35
Coupled ordering in soft matter: competition of mesoscales and dynamics of coupled fluctuations <i>M. A. Anisimov.....</i>	75
All standard theories and models of glass transition appear to be inadequate: missing some essential physics <i>K. L. Ngai.....</i>	91

Part II: Glass forming liquids

Positron annihilation lifetime spectroscopy and atomistic modeling – effective tools for the disordered condensed systems characterization <i>J. Bartoš, D. Račko, O. Šauša, J. Krištiak.....</i>	113
Segmental and chain dynamics in polymers <i>C. M. Roland, R. Casalini.....</i>	133
Isobaric and isochoric properties of glass-formers, <i>R. Casalini, C. M. Roland.....</i>	141
Influence of Differences in Molecular structure on Behavior of α and β Relaxation Processes in Diisooctyl Phthalate and Diisooctyl Maleate <i>S. Pawlus, M. Paluch, M. Mierzwa, S. Hensel-Bielowka, E. Kamińska, K. Kamiński, S. J. Rzoska, S. Maślanka.....</i>	149

Orientationally disordered glassy phases <i>J. Ll. Tamarit, S. Pawlus, A. Drozd-Rzoska, S. J. Rzoska.....</i>	161
--	-----

Part III: Liquid Crystals

Glassy dynamics of rod-like liquid crystals: the influence of molecular structure <i>A. Drozd-Rzoska, S.J. Rzoska, M. Janik.....</i>	189
--	-----

Ordering effect on dynamics in glass-forming mixture of liquid crystals <i>M. Mierzwa, M. Paluch, S. J. Rzoska, J. Zioło, U. Maschke.....</i>	201
---	-----

Nonlinear dielectric spectroscopy near smectic A-smectic C* transition in ferroelectric liquid crystal DOBAMBC <i>A. Drozd-Rzoska, S. J. Rzoska, J. Zioło.....</i>	215
--	-----

Confined liquid crystalline 5CB in 2D Thermodynamic Space – Preliminary Dielectric Relaxation Study <i>S. Pawlus, J. Osinska, S. J. Rzoska, S. Kralj, G. Cordoyiannis.....</i>	229
--	-----

Annihilation of defects in liquid crystals <i>M. Svetec, M. Ambrožič, S. Kralj.....</i>	239
--	-----

Waves at the nematic–isotropic interface: nematic–non-nematic and polymer–nematic mixtures <i>V. Popa-Nita, T. J. Sluckin.....</i>	253
--	-----

Part IV: Critical Liquids

Global phase behavior of supercritical water – environmentally significant organic chemicals mixtures <i>S. V. Artemenko, V. A. Mazur.....</i>	269
--	-----

Properties of water near its critical point <i>V. Kulinskii, N. Malomuzh.....</i>	287
--	-----

Fluctuational equation of state and slopes of critical curves near the critical point of solvent <i>V. Rogankov, O. Byutner.....</i>	305
--	-----

Combined models of thermophysical properties along the coexistence curve <i>E. E. Ustjuzhanin, B. F. Reutov, V. F. Utenkov, V. A. Rykov</i>	325
Intermolecular potential for simple liquids and gases in the high pressure region <i>V. Yu. Bardic, L. A. Bulavin, V. M. Sysoev, N. P. Malomuzh, K. S. Shakun</i>	339
Homogeneous nucleation and growth from highly supersaturated vapor by molecular dynamics simulation <i>N. Lümmen, B. Fischer, T. Kraska</i>	351
How to generate and measure negative pressure in liquids? <i>A. R. Imre</i>	379
Indirect methods to study liquid–liquid miscibility in binary liquids under negative pressure <i>A. R. Imre, A. Drozd-Rzoska, S. J. Rzoska, T. Kraska</i>	389
Part V: Bio-liquids and related problems	
Critical properties of soft matter at restricted geometry as emerging problem: fundamentals and biological applications <i>A. V. Chalyi, L. A. Bulavin, K. A. Chalyy, L. M. Chernenko, A. N. Vasil'ev, E. V. Zaitsev</i>	399
Water–biomolecule systems under extreme conditions: from confinement to pressure effects <i>M.-C. Bellissent-Funel</i>	413
Recent progresses in understanding of water interacting with biomolecules, and inside living cells and tissues <i>R. C. Ford, J. Li</i>	433
Self-assembly of polypeptides. The effect of thermodynamic confinement <i>G. Floudas, P. Papadopoulos</i>	447

Coulomb liquids under electric field – application of a new computer simulation method <i>E. S. Yakub</i>	457
Solvation effects in near-critical polar fluids <i>A. Onuki</i>	467