

Contents

<i>Preface</i>	3
<i>NTSE-2014 Scientific Advisory Committee</i>	4
<i>NTSE-2014 Organizing Committee</i>	5
<i>Program of International Conference on Nuclear Theory in the Supercomputing Era — 2014 (NTSE-2014)</i>	6
Invited talks:	
<u>Takashi Nakatsukasa</u> , <i>Time-dependent density-functional calculation of nuclear response functions</i>	1
<u>J. Terasaki</u> , <i>Effects of QRPA correlations on nuclear matrix elements of neutrinoless double-beta decay through overlap matrix</i>	23
<u>Yutaka Utsuno</u> , Takaharu Otsuka, Noritaka Shimizu, Yusuke Tsunoda, Michio Honma, Takashi Abe, Takahiro Mizusaki, Tomoaki Togashi and B. A. Brown, <i>Large-scale shell-model studies for exotic nuclei: probing shell evolution</i>	29
<u>Alexander Volya</u> , <i>Computational approaches to many-body dynamics of unstable nuclear systems</i>	35
<u>K. Yabana</u> , Y. Fukuoka, Y. Funaki and T. Nakatsukasa, <i>Cluster structure of light nuclei superposing multiple Slater determinants</i>	51
<u>Yury M. Tchuvil'sky and Alexander Volya</u> , <i>Study of cluster reactions in advanced shell model approaches</i>	57
<u>Furong Xu, Baishan Hu, Weiguang Jiang, Wenjun Chen, Acan Dai and Junchen Pei</u> , <i>From Gogny force to shell-model calculations</i>	69
<u>T. Dytrych, K. D. Launey, J. P. Draayer, P. Maris, J. P. Vary, D. Langr and T. Oberhuber</u> , <i>Emergence of simple patterns in complex atomic nuclei from first principles</i>	75
<u>A. N. Chibisov</u> , <i>Ordered oxygen arrangement in titanium nanoparticles: ab initio study</i>	86
<u>L. D. Blokhintsev</u> , <i>Vertex functions and asymptotics of nuclear bound-state wave functions</i>	90
<u>S. Albeverio and A. K. Motovilov</u> , <i>Bounds on variation of the spectrum and spectral subspaces of a few-body Hamiltonian</i>	98
<u>Ch. Elster, L. Hlophe, V. Eremenko, F. M. Nunes, G. Arbanas, J. E. Escher, I. J. Thompson (The TORUS Collaboration)</u> , <i>Separable optical potentials for (d, p) reactions</i>	107
<u>S. G. Bondarenko, V. V. Burov and S. A. Yurev</u> , <i>Three-nucleon calculations within the Bethe–Salpeter approach with rank-one separable kernel</i>	125
<u>Konstantin A. Kouzakov</u> , <i>Problems of theoretical interpretation of COLTRIMS results on ionization of helium by fast bare-ion impact</i>	132
<u>M. S. Aleshin, S. A. Zaytsev, G. Gasaneo and L. U. Ancarani</u> , <i>Quasi-Sturmian functions in continuum spectrum problems</i>	139

<i>M. S. Aleshin, S. A. Zaytsev, G. Gasaneo and L. U. Ancarani</i> , Convoluted quasi-Sturmian basis in three-body Coulomb problems	144
<i>James P. Vary, Pieter Maris, Hugh Potter, Mark A. Caprio, Robin Smith, Sven Binder, Angelo Calci, Sebastian Fischer, Joachim Langhammer, Robert Roth, Hasan Metin Aktulga, Esmond Ng, Chao Yang, Dossay Oryspayev, Masha Sosonkina, Erik Saule and Ümit Çatalyürek</i> , <i>Ab initio</i> No Core Shell Model — recent results and further prospects	154
<i>T. Abe, P. Maris, T. Otsuka, N. Shimizu, Y. Utsuno and J. P. Vary</i> , Extrapolation to infinite basis space in no-core Monte Carlo shell model	166
<i>A. M. Shirokov, G. Papadimitriou, A. I. Mazur, I. A. Mazur, R. Roth and J. P. Vary</i> , Tetraneutron resonance from JISP16 <i>NN</i> interaction	174
<i>A. I. Mazur, A. M. Shirokov, I. A. Mazur and J. P. Vary</i> , Resonant states in the shell model	183
<i>N. A. Khokhlov</i> , Electromagnetic deuteron form factors in point form relativistic quantum mechanics	230
<i>Kimiko Sekiguchi</i> , Approach to three nucleon forces from experiment	241
<i>R. Machleidt</i> , Chiral EFT and nuclear forces: are we in trouble?	251
<i>List of participants</i>	258