

ICCP 8

The 8th International Conference
on
Computational Physics

香港



7-11 January, 2013
Hong Kong

Book of Abstracts

8:45	Morning Tea								
9:00-9:45	Plenary Session: Chair: Tao Tang (HKBU) 9:00 Leonardo Golubovic (WVU) <i>Bio-macromolecules and their complexes - An inspiration for theoretical and computational physics</i>								WLB103 Lam Woo Int'l Conf. Centre
9:45-10:00	Coffee Break								
10:00-12:00	Mini-symposium 5 Organizer: Mohammed Lemou, Shi Jin Chair: Shi Jin 10:00 Mohammed Lemou 10:30 Nicolas Crousseilles 11:00 Bruno Despres 11:30 Gilles Vilmat	Mini-symposium 9 Organizer: Peijun Li, Di Liu, Bao Gang Chair: Peijun Li 10:00 Liwei Xu 10:30 Weiwei Sun 11:00 Eric Chung 11:30 Di Liu	Mini-symposium 13 Organizer: Lei Zhang, Xiang Zhou Chair: Zhou Xiang 10:00 Weiqing Ren 10:30 Tiejun Li 11:00 Lei Zhang 11:30 Ling Lin	Mini-symposium 12 Organizer: Leonardo Golubovic Chair: Leonardo Golubovic 10:00 Robin Blumberg Selinger 10:30 Lianghui Gao 11:00 Dorel Moldovan 11:30 Igor Kutic					WLB204 Lam Woo Int'l Conf. Centre
12:00-13:15	Lunch								
13:15-14:45	Plenary Session: Chair: Klaus Hermann (Max Planck Society) 13:15 Yuan Ping Feng (NUS) 14:00 Masahiro Hoshino (U Tokyo) <i>From Electronics to Spintronics: Materials Issues and Roles of ab initio Calculations</i> <i>Challenge of Magnetic Reconnection and Particle Acceleration in Relativistic Plasmas</i>								WLB103
14:45-15:00	Coffee Break								
15:00-17:30	Mini-symposium 5 Organizer: Mohammed Lemou, Shi Jin Chair: Mohammed Lemou 15:00 Arnais Crestetto 15:30 Gabriella Puppo 16:00 Shi Jin 16:30 Liwei Xu (C)	Mini-symposium 9 Organizer: Peijun Li, Di Liu, Bao Gang Chair: Di Liu 15:00 Yayan Lu 15:30 Peijun Li 16:00 Guanghui Hu 16:30 Bo Zhang 17:00 Zhiqiang Shao (C)	Mini-symposium 13 Organizer: Lei Zhang, Xiang Zhou Chair: Lei Zhang 15:00 Zhou Xiang 15:30 Weiguo Gao 16:00 Xiaoliang Wan 16:30 Yuan Yao 17:00 Bin Min	Mini-symposium 12 Organizer: Leonardo Golubovic Chair: Leonardo Golubovic 15:00 Bostilka Tadic 15:30 Kodanova Sandugash (C) 15:50 Kin-Yiu Wong (C) 16:10 Zhanos Moldabekov (C)					WLB204

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and microscopic dynamical values are obtained without direct solving of the equations of motions. The proposed method was tested for the non-isothermal two component plasma of the ions and electrons which interact via the Coulomb potential with standard Ewald procedure. The obtained results were compared with available data of other works. The applicability of this method for investigation of other physical systems are discussed. In this work new approach for computer simulation of the dynamical properties of many particle systems is presented.

References

- [1] J. Thijssen, "Computational Physics", Cambridge University Press (2007).
- [2] T.S. Ramazanov e.a., J. Plasma Phys. 2006. vol. 72, no. 6, p. 1031.
- [3] T.S. Ramazanov e.a., Proc. Int. Conf. Numerical Simulations of Plasma. Japan. 2005, p. 161.

The Modern Information Technologies and Visualization Methods for Analysis of Computer Simulation Results for Complex Plasma

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At the present time the study of the complex plasma properties is not only of fundamental interest, but it also has various important technological applications. It is known that as a result of computer simulation we obtain many complicated graphical dependencies. During design engineering of real technological projects it is necessary to imagine complicated processes in complex plasma. In this connection the role of visualization methods for analysis of processes in complex plasma is important. In this work the properties of plasma are simulated by two ways. First of all, we calculate microscopic properties of plasma by using the Boltzmann equation with additional relations, initial and boundary conditions. Secondly, we have applied the molecular dynamics simulation method which numerically solve the equations of motions for plasma particles. The special information system for visualization is constructed on the basis of the OPEN-GL and 3D MaxStudio platforms. The spatio-temporal dependencies of physical quantities for complex plasma are obtained. Such important processes as a crystallization, phase transition and formation of ordered structures are observed by proposed software.

Mood Modifying Mechanisms in Online Chats and Blogs: Agent-Based Simulations

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Online communications via exchanged messages in online chats or posting comments on blogs, have been recently shown to carry emotional contents which substantially affect user behavior. Consequently, new collective phenomena have been observed. For instance excessive negative emotion (critique) occurs on certain popular blogs [1], involving a large number of users. On the other hand, the Internet-Relayed-Chats (IRC) in chat channels being devoted to specific subject, evolve to long-term user associations similar to the social networks [2]. The presence of Web bots in the chats offers a possibility to influence the course of events and potentially affect user's mood. Here we present recently developed agent-based models of the emotional agents on the networks [3,4], which capture the dynamics of user communications on blogs and the emotional chats with bots. Inferring the model parameters from the empirical data of blogs and online chats, performing the simulations, and introducing quantitative measures of collective behaviors, we focus on the mechanisms that enable mood polarization involving large groups of agents (users) in these two online systems. References: