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Some aspects in the field of high energy density physics

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Prof. Xiantu He is a theoretical physicist. He is the chief scientist of many Chinese national nuclear research and development programs. He is the director of Center for Applied Physics and Technology, Peking University. He studied mathematics and physics, and graduated from Zhejiang University in 1962. He served for a long time in the physical institutes of the Chinese Academy of Science, and he is the former deputy director of the Institute of Applied Physics and Computational Mathematics (IAPCM), Beijing. He also holds the professorship and the dean position of the College of Science, Zhejiang University. He became an academician of the Chinese Academy of Sciences in 1995. He has been long working on inertial confinement fusion ICF model, nonequilibrium statistical physics, and nonlinear plasma physics. He made great contributions to the development of nuclear weapons in China.



Abstract



The development of intense lasers, Z-pinch facilities and massively parallel computers provides possibilities to study high energy density physics (HEDP). A number of physics phenomena under the regime of high energy density (HED) that usually means the state of pressure $\sim 10^{11}$ Mb are of wide scientific and practice interest. In this presentation, properties of warm dense matter and high temperature plasmas, atomic ionization and particle acceleration under high field, and the compressible fluid turbulence and hydrodynamic instabilities under the conditions of HED are discussed.

All are welcome! Tea, coffee, biscuits will be served at 2:45

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).