

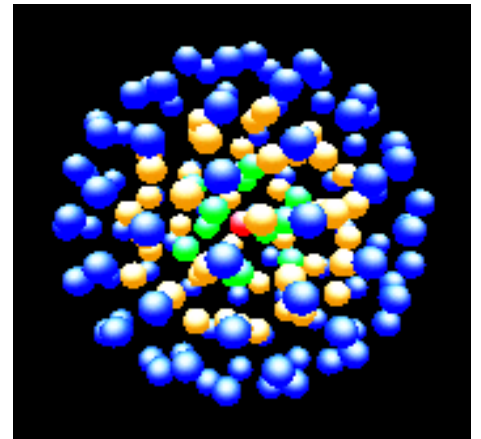
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Complex plasmas - a laboratory for strong correlations

Strong correlations are of growing interest in many fields of physics and beyond. This includes condensed matter systems, fluids, plasmas, nuclear matter and even the quark-gluon plasma. Yet the systems with the strongest known correlations are complex plasmas – plasmas containing micrometer-size particles that may collect several thousand of elementary charges. The resulting strong Coulomb interaction gives rise to pronounced correlation effects, including crystal formation even at room temperature.



Complex plasmas have the great advantage that individual particles are clearly visible and their trajectories can be followed and recorded. This allows one to study many-body physics and correlation dynamics with unprecedented accuracy. This talk gives an overview on recent experiments and theoretical results [1] and discusses the relation to other strongly correlated systems.

[1] M. Bonitz, C. Henning, and D. Block, *Rep. Prog. Phys.* 73, 066501 (2010)