

Abstract Submitted
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Coupling Strength and Coupling Parameters in One-Component Plasmas¹ TORBEN OTT, MICHAEL BONITZ, University of Kiel, LIAM STANTON, Lawrence Livermore National Laboratory, MICHAEL MURILLO, Los Alamos National Laboratory — Strong correlations in plasmas are a subject of continuing interest in many experiments. How to quantify the degree of correlations in systems with varying charge state, temperature and screening length is, however, a question of some debate. In this contribution, we propose a one-to-one mapping between the structural properties of a one-component plasma and its coupling strength. This allows one to assess the degree of correlation without knowledge of the charge state or temperature. We furthermore define an effective coupling parameter for screened Coulomb systems which allows one to compare systems with different screening lengths to one another and Coulomb systems.

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