

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Truncated phase-space approach to polaron response DRIES SELS,
Boston Univ — A method is presented to obtain the linear response coefficients of a system coupled to a bath. The method is based on a systematic truncation of the Liouville equation for the reduced distribution function in the Weyl representation. Explicit expressions for the conductivity of the Frhlich polaron are obtained, and the discrepancy between the Kadanoff and the Feynman-Hellwarth-Iddings-Platzman mobility is elucidated. We argue why both approaches require a correction. Finally, we show how due to the system-bath coupling, the external perturbation induces a retarded internal field which dynamically screens the external force. Whereas the effect on the dc-mobility is of second order, dynamical properties such as the effective mass and the optical absorption are modified in first order.

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Date submitted: 06 Nov 2015

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