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Charge-Plasma Coupling and the Transition from Dynamic to Static Disorder DAVID H. DUNLAP, TZU-CHENG WU, University of New Mexico — The low density of injected charges in molecular solids for device applications such as photoconductors and solar cells gives rise to a small plasma frequency. This in turn implies a slow evolution of the potential energy landscape arising from thermal fluctuations in charge density. For a sufficiently dilute system, a dynamic disorder – to - static disorder transition occurs when the movement of any one charge is faster than the characteristic oscillations of the landscape through which it travels. In this talk we will show how this behavior can be described in the context of polaron transport by including the appropriate dispersion in the Froehlich Hamiltonian.

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