Abstract Submitted for the 4CF07 Meeting of The American Physical Society

AC Conductivity in Hopping Systems DAVID H. DUNLAP, Department of Physics and Astronomy — The ubiquitous power-law frequency dependence observed for the ac conductivity in highly disordered semiconductors has a number of competing explanations. We review these mechanisms and discuss their relation to a simple Langevin theory for conductivity in confined regions. The theory is used to interpret recent measurements of the ac conductivity in nanowire arrays.

David H. Dunlap Department of Physics and Astronomy, University of New Mexico, Albuquerque, NM 87106

Date submitted: 14 Sep 2007 Electronic form version 1.4