Abstract Submitted
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ac conductivity of a Coulomb glass from computer simulations SERGEY BASYLKO, Royal Institute of Technology, Stockholm, Sweden, VICTOR ONISCHOUK[1], Joint Institute of Chemical Physics, RAS, 117 977, Kosygin Street 4, Moscow, Russia , ANDERS ROSENGREN, Royal Institute of Technology, Stockholm, Sweden — A method for calculating the photon-induced hopping ac conductivity of a Coulomb glass by computer simulation is proposed. Results obtained by using an effective relaxation algorithm for two three-dimensional models of a Coulomb glass are reported. The ac conductance data clearly demonstrate the transition from super-linear to a sub-quadratic power law. We argue that the same qualitative behavior should be expected for compensated semiconductors. It is shown that the transition is driven by the Coulomb energy of sites forming resonant pairs and not by the width of the Coulomb gap.

References

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[1]Deceased

Sergey Basylko
Royal Institute of Technology, Stockholm, Sweden

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