

Abstract Submitted
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Higher order moment models of electron transport in gases and liquids NATHAN GARLAND, GREGORY BOYLE, DANIEL COCKS, Physical Sciences, College of Science and Engineering, James Cook University, SASA DUJKO, Gaseous Electronics Laboratory, Institute of Physics, University of Belgrade, RONALD WHITE, Physical Sciences, College of Science and Engineering, James Cook University — This study seeks to extend an existing higher order (four) moment model to consider electron transport in gases and liquids. The impact of coherent scattering and other liquid effects are included into the moment model. By reconciling existing closure approximations into a new closure assumption, the subsequent moment model will be studied to understand the accuracies and sensitivities of various closure assumptions used in practice. A particular focus is the ability of the higher order moment model to treat spatially varying electric fields including interfaces, through comparison of the results with a space-time dependent solution of Boltzmann's equations.

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