

Abstract Submitted
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The impact of finite-area inhomogeneities on resistive and Hall measurement DANIEL KOON, St. Lawrence University — I derive an iterative expression for the electric potential in an otherwise homogeneous thin specimen as the result of a finite-area inhomogeneity in either the direct conductance, the Hall conductance, or both. This expression extends to the finite-area regime the calculation of the effect of such inhomogeneities on the measurement error in the sheet resistance and Hall sheet resistance. I then test these results on the exactly-solvable case of a circular inhomogeneity equally distant from the four electrodes of either a square four-point-probe array on an infinitely large conducting specimen or a circular van der Pauw specimen with symmetrically-placed electrodes.

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