

Mathematical Physics

On the electrical current distributions for the generalized Ohm's Law

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(Submitted on 12 Nov 2010)

The paper studies a particular class of analytic solutions for the Generalized Ohm's Law, approached by means of the so called formal powers of the Pseudoanalytic Function Theory. The reader will find a description of the electrical current distributions inside bounded domains, within inhomogeneous media, and their corresponding electric potentials near the boundary. Finally, it is described a technique for approaching separable-variables conductivity functions, a requisite when applying the constructive methods posed in this work.

Comments: 24 pages, 12 figures

Subjects: **Mathematical Physics (math-ph)**; Classical Physics (physics.class-ph)

Cite as: [arXiv:1011.2817v1](#) [math-ph]

Submission history

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[v1] Fri, 12 Nov 2010 03:31:56 GMT (703kb,D)

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