

Review of: "Circuits, Currents, Kirchhoff, and Maxwell"

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Dr. Eisenberg discusses an important issue which is often passed over in the commonly available literature: the fact that Maxwell's concept of current as $\rho v + (1/c^2)\partial_t E$ rather than ρv is more appropriate. I think, however, that the paper would be improved if the author would state how I can use this fact in my analysis of circuits. Inclusion of the displacement current raises the issue of modeling the stray capacitances---which is a nontrivial problem.

I think Dr. Eisenberg also neglects the fact that there is another Kirchhoff Law: namely KVL---the sum of the voltages around a closed loop is zero. It is not so clear that this Law can be used profitably for picosecond currents as he asserts is the case of the current law.

We need to see more papers of this sort.