





ACKNOWLEDGEMENTS

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There is a large number of excellent textbooks on electrodynamics and relativistic field theory, and my script is not supposed to be a replacement for them. In no particular order I would like to mention:

- J.D. Jackson: Classical Electrodynamics, Wiley, 1998
- W. Greiner: Classical Electrodynamics, Springer, 1992
- F. Scheck: Classical Field Theory, Springer, 2012
- J.D. Bjorken, S.D. Drell: Relativistic Quantum Fields, McGraw-Hill, 1965

Concerning notation in this script, the index notation and the distinction between vectors and linear forms, my readers deserve an  apology, or at least a justification: My feeling was that students take some time to transition to the index notation which is widely used in field theory and relativity, and one might as well start that transition early in the curriculum. I hope that nowhere there was an unexplained or underived vector identity, which I found dissatisfying as a student and which I hope to remedy in my script. To my view, the subtleties related to vectors and linear forms, and the properties of media matter a lot, for instance the differences between energy and momentum transport, and it was my intention to convey this in my lecture.

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