

Reading

Required Reading

- Chapter 4, pp. 132-134. Gauss' Law
- Chapter 5, pp. 176-195. Dielectric materials
- Chapter 7, pp. 317-319. Gauss' law for magnetic fields
- Chapter 8, pp. 368-375. Magnetic materials
- Chapter 9, pp. 420-438. The curl equations

Problems

Create a summary of the frequency-domain form of Maxwell's equations and the constitutive relations. Each equation should be written in both integral and differential form. Each equation should be illustrated to visualize the meaning of the equation. You may include anything else that adds to the artistic or scientific message of the summary. Your summary should only be on a single side of one page, but it can be larger than 8.5"×11" if you wish to have more room (i.e. a poster).

For each of the required equations on your poster, provide the following:

1. The name of the equation (i.e. Gauss' law, Faraday's law, etc.)
2. The equation, properly formatted.
3. A diagram or picture that illustrates the meaning of the equation. Construct the diagrams yourself. You are not permitted to copy/paste from the internet, the course notes, or any other digital resource. Your diagrams must be your own work, but you can certainly get inspired by illustrations online.
4. *Optional – Any other related equations, information, notes, or historical data that you think would be helpful, informative, or fun.*

When complete, your summary should have at least 12 equations and 12 visualizations.

Have fun and be creative with this assignment!