

Intermediate Electricity and Magnetism

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Last Lecture in bullets..

- Starting talking about electricity and magnetism in media [not in free space!]
- Polarization (E, P, D)
- Magnetization (B, M, H)
- How do the Maxwell equations look like (again!!)

Today:

- Boundary conditions between two regions
- Conservation of charge
- Conservation of energy
- Conservation of momentum
- Conservation of angular momentum

**Main reference for now: Griffith's
Introduction to Electrodynamics (3rd ed.)
Chapters 7 & 8**

Closing Remarks

- QC questionnaire
- The session lessons
- One homework tomorrow, another on Tuesday 😊
- Reading Group
- Next Tuesday last day before exams; will resume in about two weeks, in sha'a Allah

Where are we heading?

- Maxwell's equations
- Conservation (of charge, energy and momentum)
- Electromagnetic waves
- Wave guides
- Fields and potentials in electrodynamics
- Radiation.. [and more..]
- We will ultimately need to come back and study subjects that we continue to skip