

Electricity and magnetism 2

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Book: *Introduction to Electrodynamics, Fourth Edition* by Griffiths, © 2013 *Pearson Education, Inc.*, ISBN 978-0-321-85656-2

| Topic | Concept | Example 1 | Example 2 |
|--------------------------|---------|-----------|-----------|
| 1. Electrodynamics | ✓ | | |
| 2. Conservation laws | ✓ | | |
| 3. Electromagnetic waves | | | |
| 4. Potentials and fields | ✓ | | |
| 5. Radiation | ✓ | | |
| 6. Relativity | | | |

1. Electrodynamics

2. Conservation laws

3. Electromagnetic waves

1. What is the equation for the electric field vector of an electromagnetic wave?
2. What is the equation for the magnetic field vector of an electromagnetic wave?
3. What is the equation for an electromagnetic wave?
4. What is the Poynting vector?
5. What is the equation for the Poynting vector?
6. What are two things that the Poynting vector points to?
7. What is Poynting's theorem? Write in two different ways.

4. Potentials and fields

5. Radiation

6. Relativity