

Circulation of this
edition outside the
Indian subcontinent is
UNAUTHORIZED

FOURTH EDITION
**INTRODUCTION TO
ELECTRODYNAMICS**



DAVID J. GRIFFITHS


 **Pearson**

Table of Contents

1. Vector Analysis	1
2. Electrostatics	59 <i>60-70 (Maxwell's eqs)</i>
3. Potentials	113 <i>100, 102-104 60-70 (Maxwell's eqs)</i>
4. Electric Fields in Matter ✓ <i>173</i>	167
5. Magnetostatics	211
6. Magnetic Fields in Matter	269
7. Electrodynamics	299
8. Conservation Laws	359
9. Electromagnetic Waves	387
10. Radiation	441
11. Electrodynamics and Relativity	479
12. Potentials and Fields	553
Appendix: The Helmholtz Theorem	583

Appendix: Units

587

Endpapers

593

Index

597

VECTOR ALGEBRA

1.1 Vector Operations

1.1.1 Vector Addition

If you walk 3 miles due north and then 4 miles

due east, you have walked 7 miles, but you're not 7 miles

away from the starting point. We need an arithmetic to describe

all about the addition of vectors. The result is a

new vector, the resultant, which is the sum of the two

vectors. We can find the resultant by using the triangle

rule or by using the parallelogram rule. The triangle

rule is simpler, but the parallelogram rule is more

general. We will use the triangle rule in this section.

The magnitude of a vector A is written as $|A|$ or A .

The magnitude of a vector A is always a positive number.

The magnitude of a vector A is the length of the vector.

The magnitude of a vector A is the same as the length of the

vector A when it is drawn in standard position.

The magnitude of a vector A is the same as the length of the

vector A when it is drawn in standard position.

The magnitude of a vector A is the same as the length of the

vector A when it is drawn in standard position.

The magnitude of a vector A is the same as the length of the

vector A when it is drawn in standard position.

