MAGNETIC FORCE BETWEEN CURRENTS

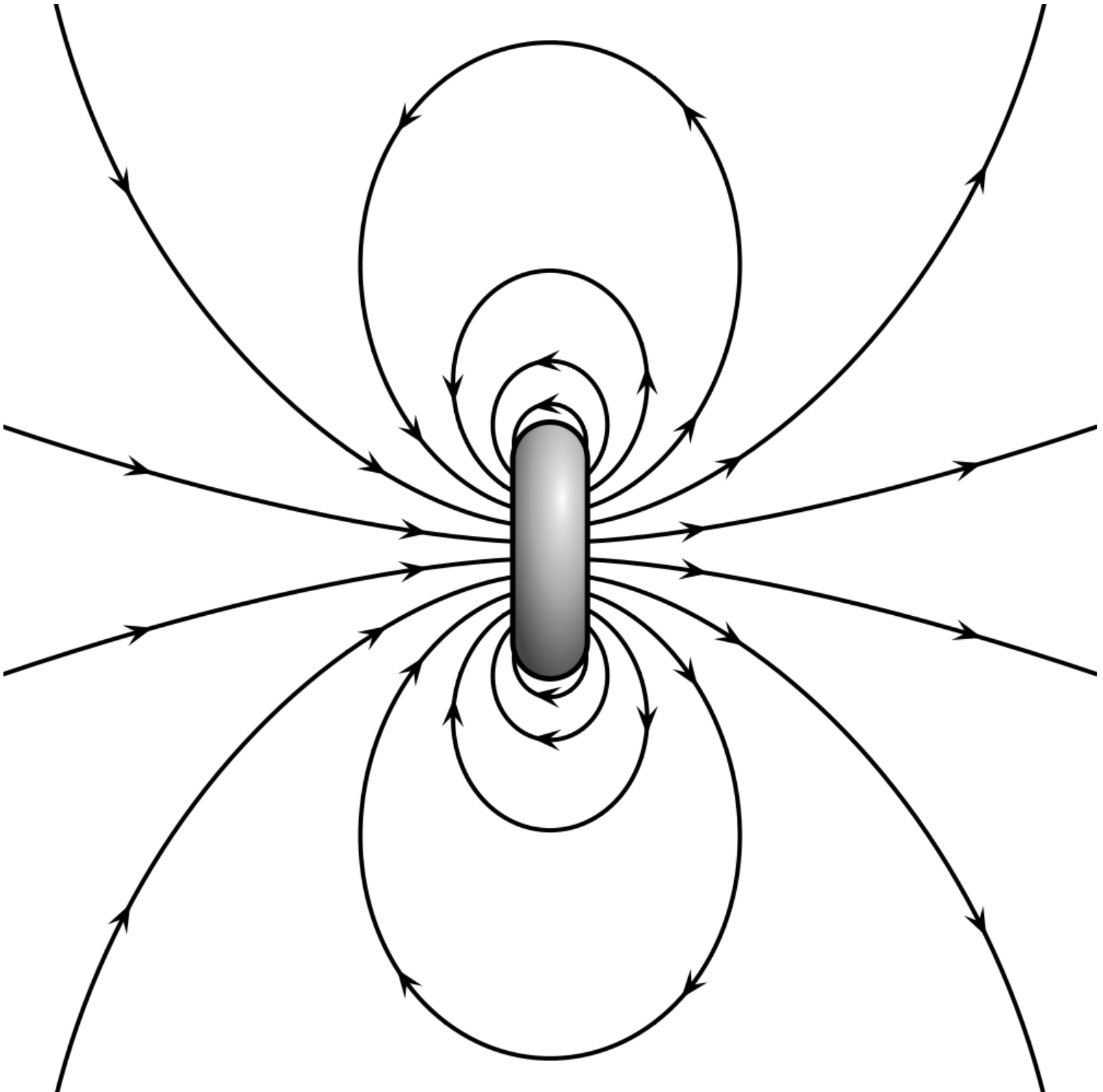
Guest Lecture: Farley Ferrante

3/29/2011

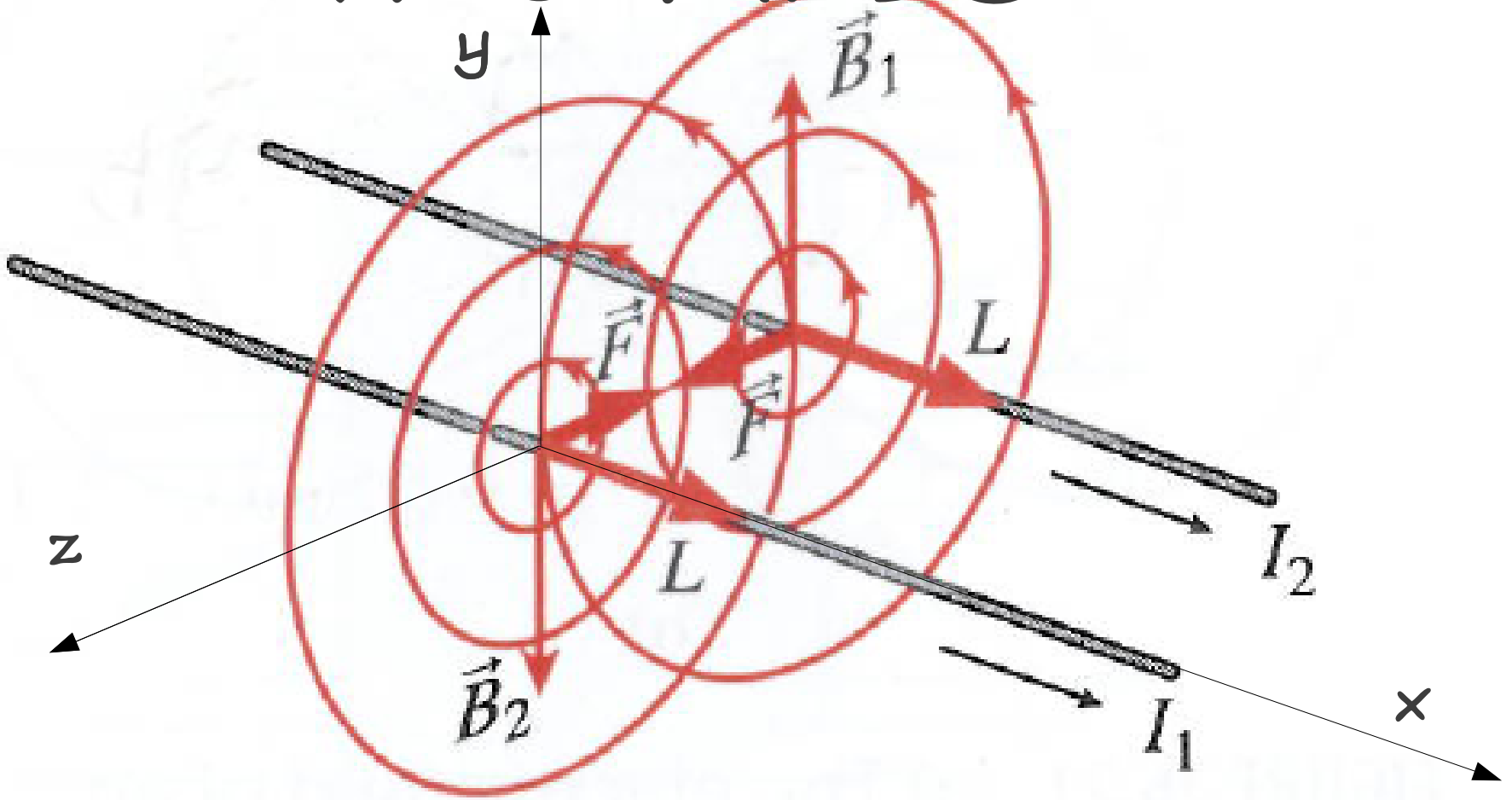
Supplementary Material for PHY1308 (General Physics - Electricity and Magnetism)

ANNOUNCEMENTS

- Homework 8:
  - Available today from the instructor by e-mail
- Next Quiz
  - Thursday, beginning of class
  - Covers Homework 7

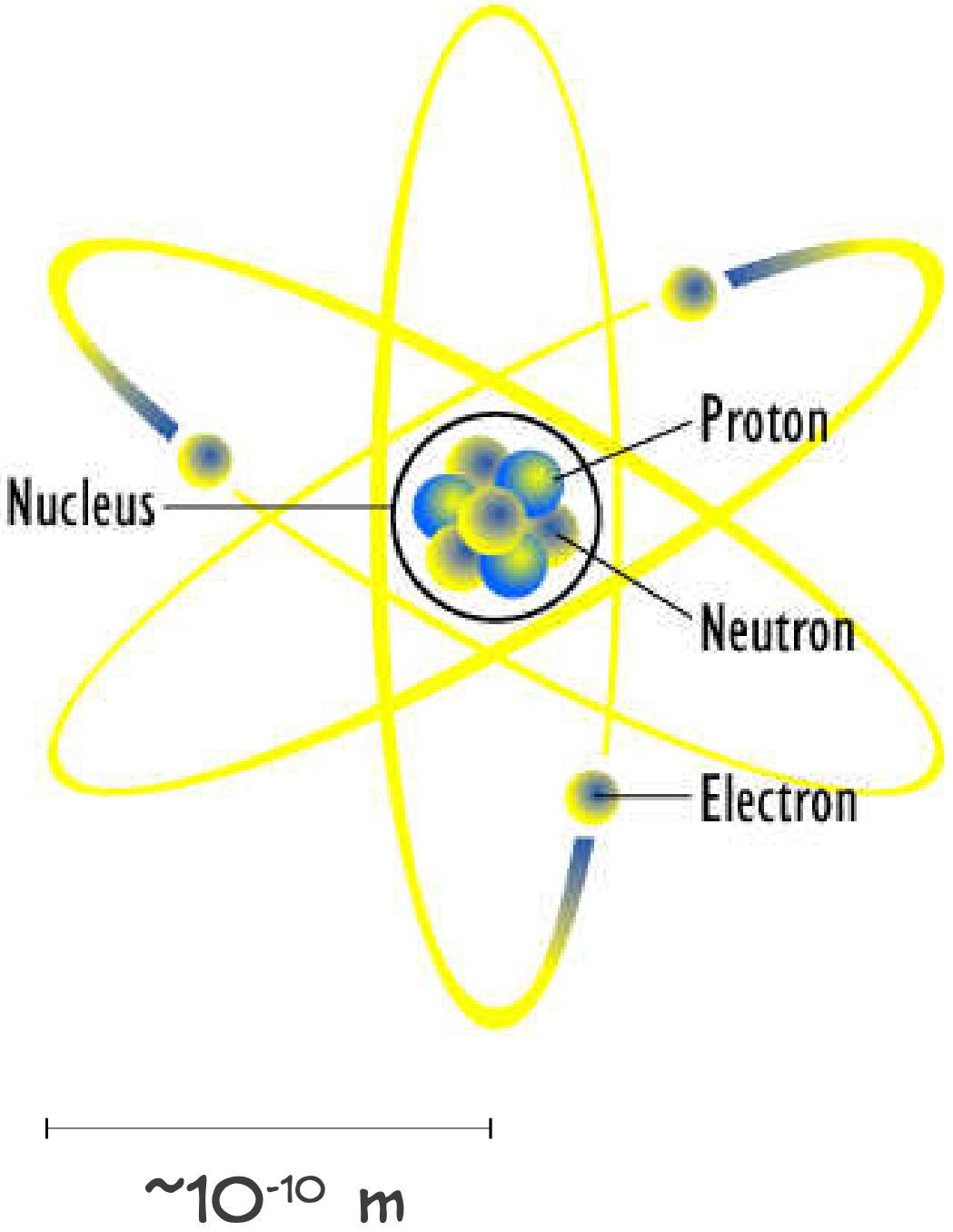


THE ATTRACTION OF TWO WIRES



http://www.youtube.com/watch?v=43AeuDvWcOk

Bohr Model of the Atom (not to scale!)



- Introduced in 1913.
- Very successful at explaining atomic properties.
- Replaced by full quantum mechanical model in 1920s.

Treat the atom like a "planetary system" - electrons in orbit around nucleus, maintained by electric force.

TERRESTRIAL MAGNETISM

Refrigerator magnets:
~0.01 T

Rare earth magnets:
~0.5-1.0 T

So, the scale of terrestrial magnetism is about 1 T.