

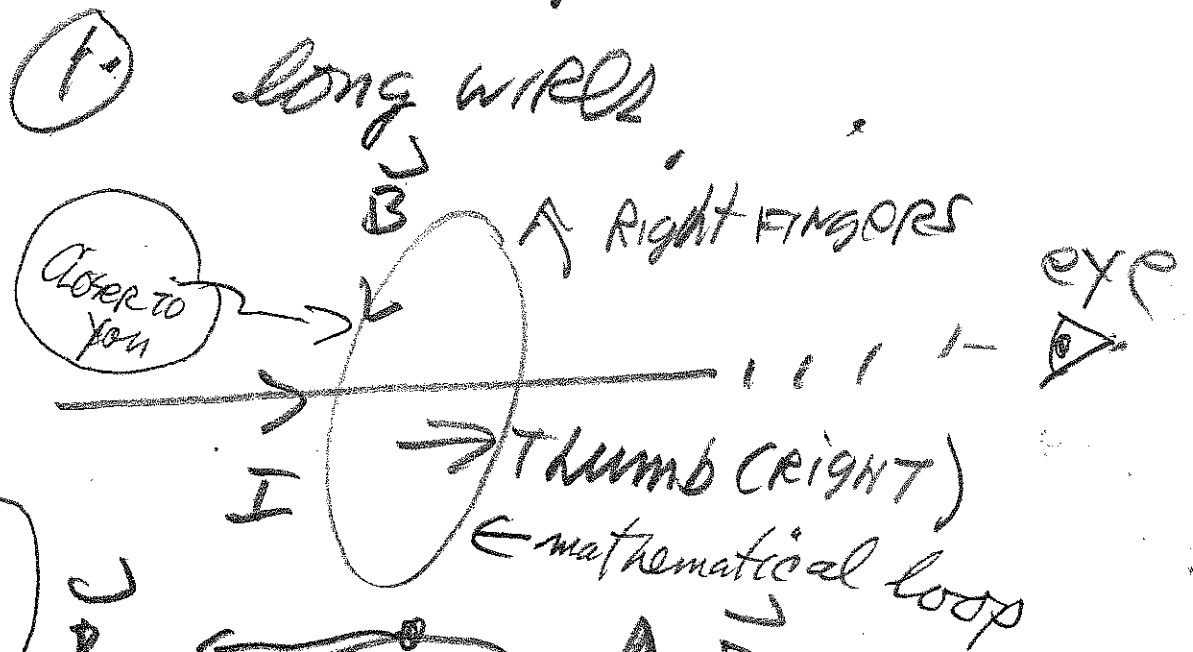
~~3-24-14~~

4B
CH 27

MAGNETIC FORCES

REVIEW: CH 28

MAGNETIC FIELDS CH 28



see:
 fig 28.5
 fig 28.9
 Example 28.7

RIGHT FINGERS



$$|\vec{B}| = \frac{\mu_0 I}{2\pi R}$$

CH 28

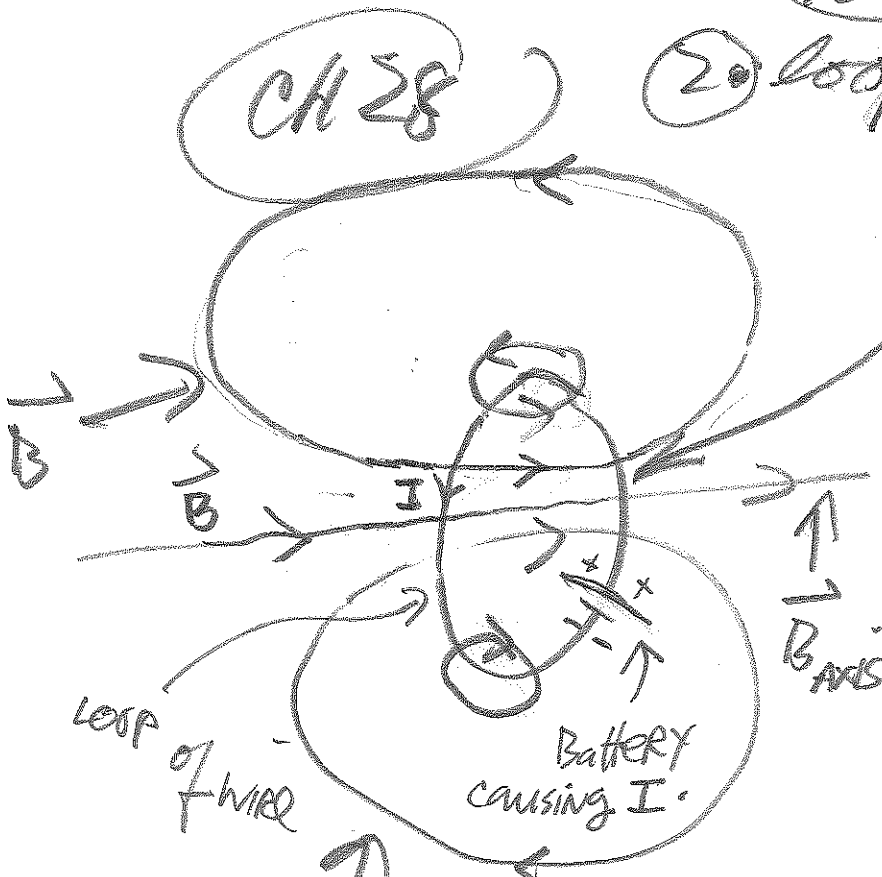
\vec{B} is tangent to loop

\vec{B} in loops
 eye view

sec. 28.5

CH 28

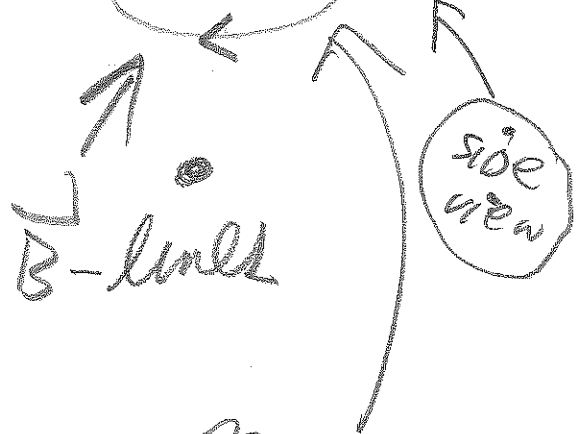
2 loops of wire



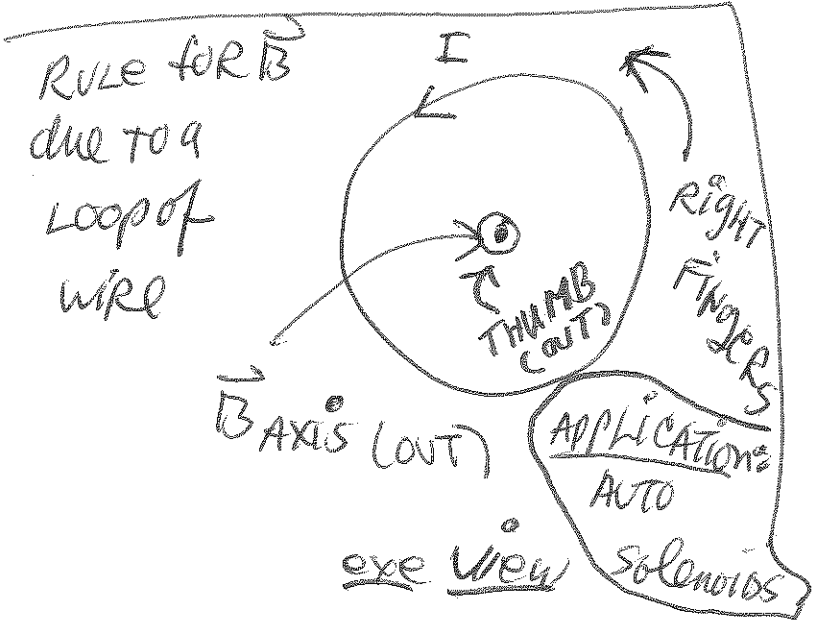
loop of wire

BATTERY CAUSING I.

B-lines are loops.



Reason this out using
 RESULT for
 a long wire
 (THUMB along I;
 Fingers along B)



Legend:

⊗ IN ⊙ OUT

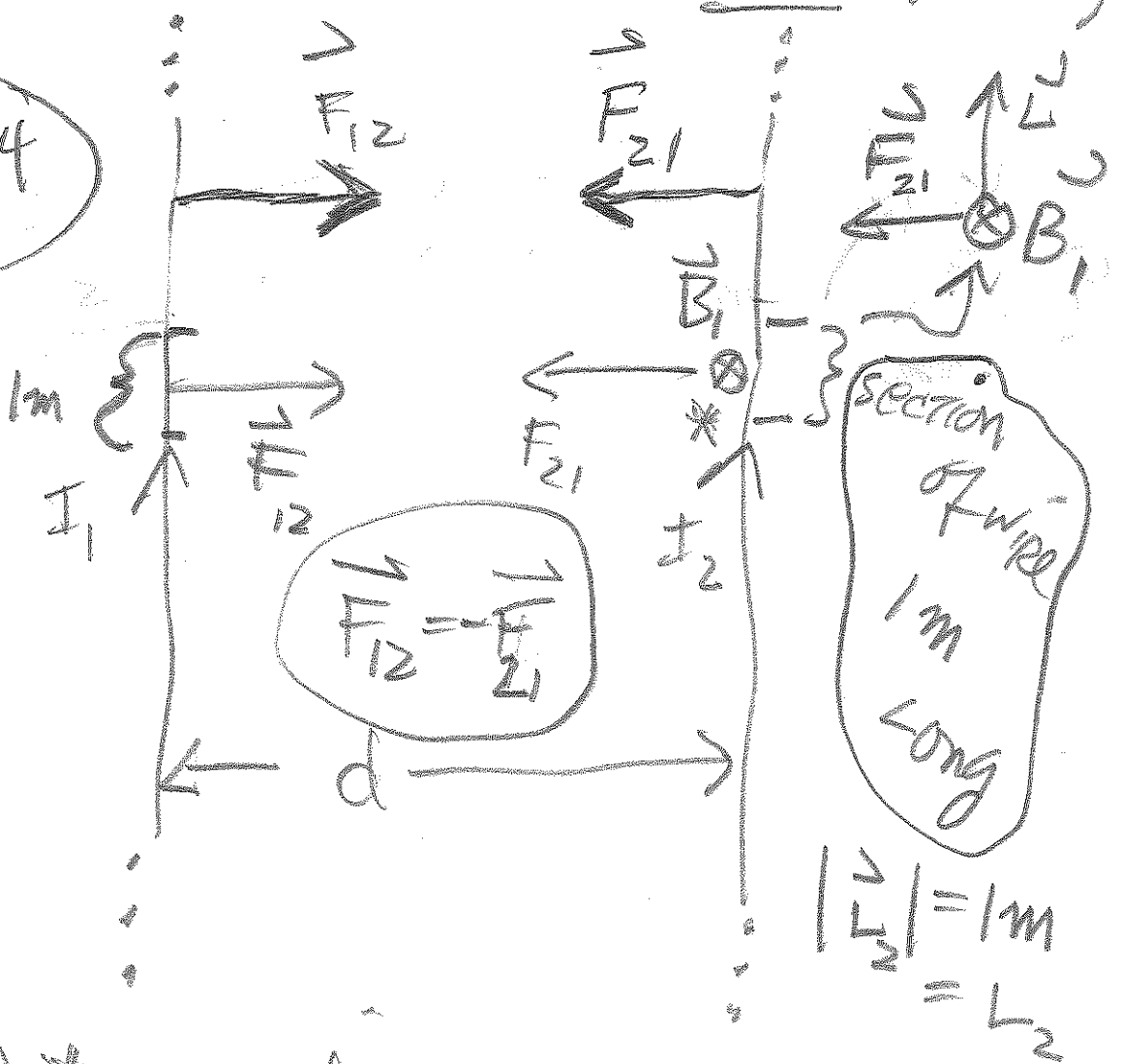
SURVEY CH 27-28

CBig picture analysis

→ METACOGNITION

(3.)

See sec 28.4

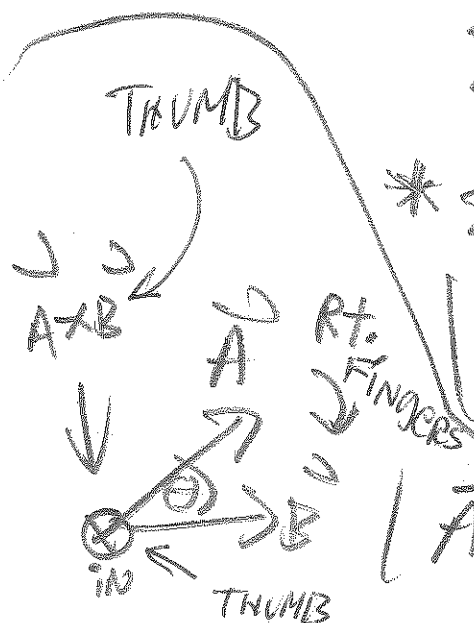


$|\vec{L}_2| = l_2$
 $= l_2$

* see Fig 28.5, 28.9.

$|\vec{F}_{21}| = |\vec{I}_2 \vec{L}_2 \times \vec{B}_1| = I_2 L_2 B_1 \sin 90$

$|\vec{A} \times \vec{B}| = AB \sin \theta = I_2 L_2 B_1$

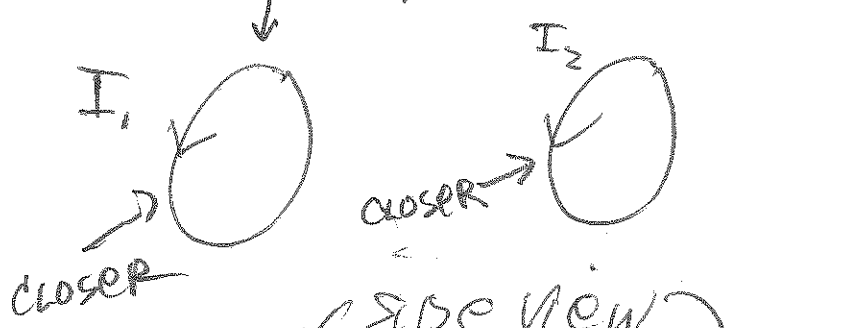


$$F_{21} = |F_{21}| = I_2 L_2 \left(\frac{\mu_0 I_1}{2r} \right)$$

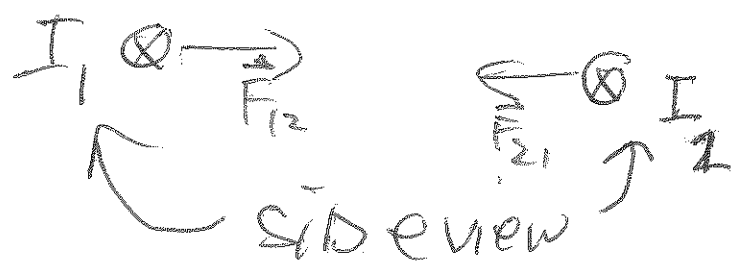
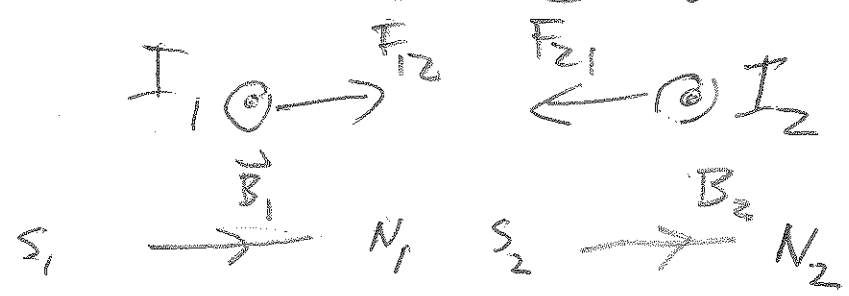
$$= \frac{\mu_0 I_2 I_1 L_2}{2r}$$

$$L_2 = 1\text{m}$$

(4.) N-S, POLES ATTRACT EACH OTHER.
 2 WIRE LOOPS



FRONT VIEW



3-26-14 4B
CH 27

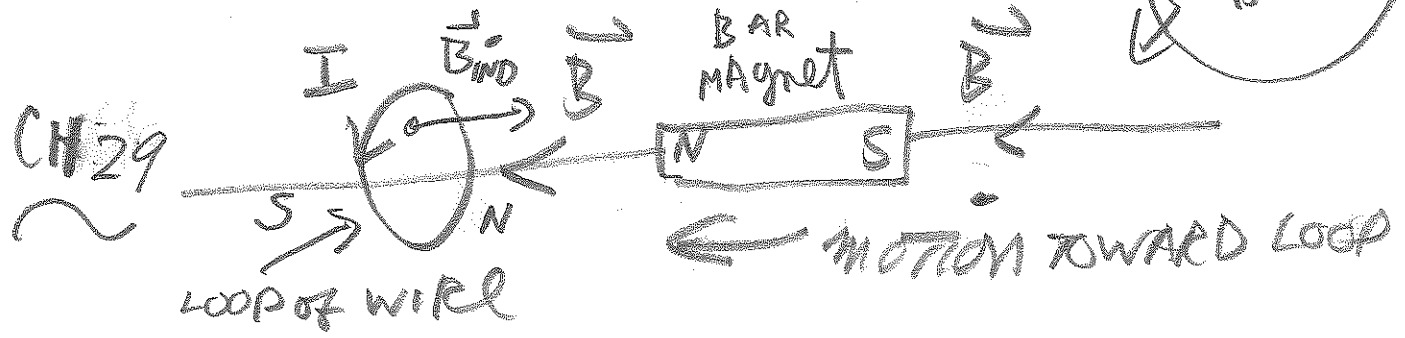
SURVEY OF FIELDS
and forces

- ① FORCES CH 27
- ② FIELDS CH 28

LAST TIME:

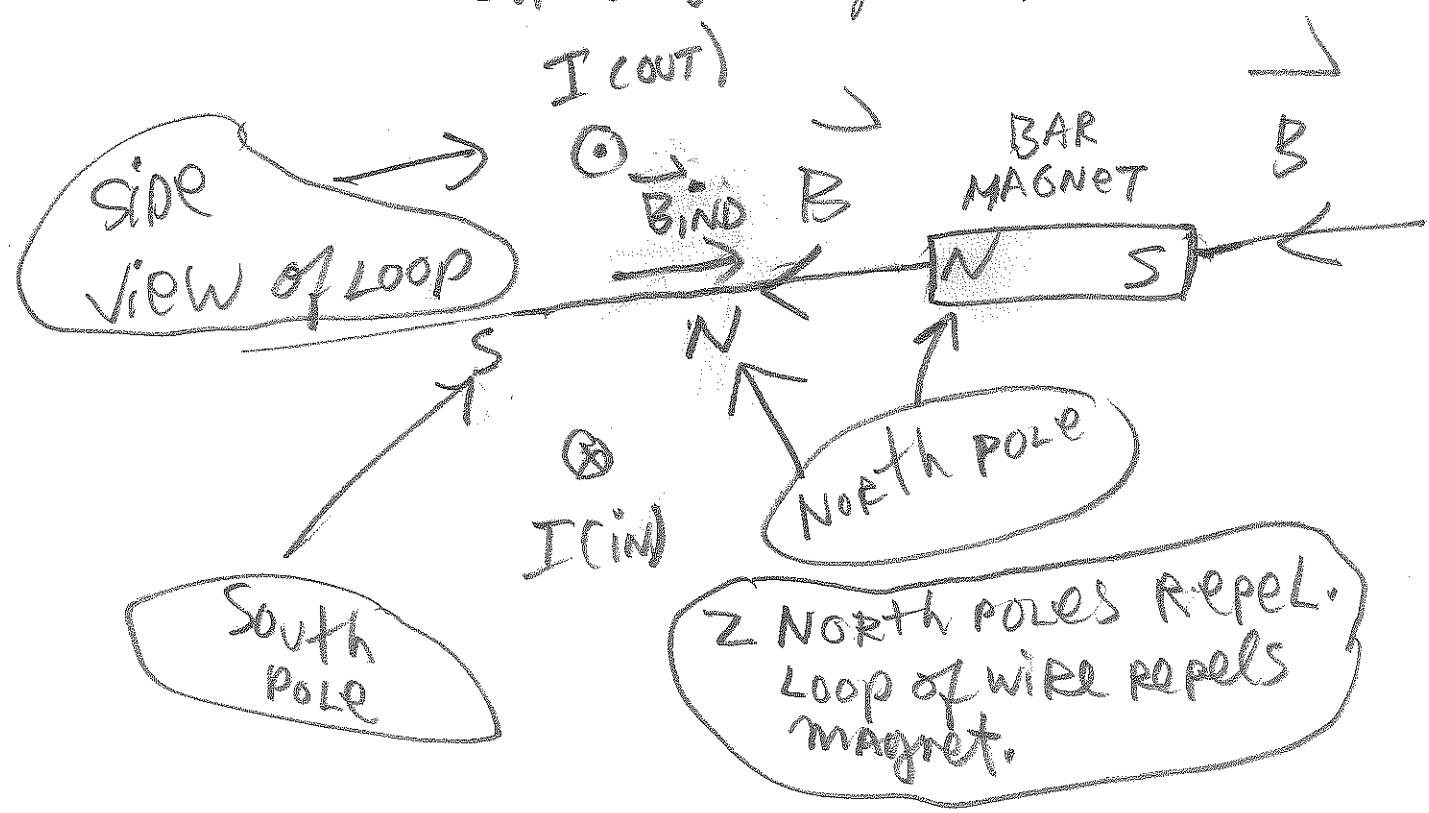
- FORCE ON CHARGE
- FORCE ON WIRE (MOTOR)
- N to N pole repulsion.

CLASS DEMO.



As you move magnet toward
wire loop, I and B_{ind}
are induced by motion.
 I creates a North pole

on right of loop.



• CH 27 notes begin on

3-12-14: FORCES

on moving CHARGE

OR wire with CURRENT

in it.

• CH 27 resumes 3-19-14

and 3-24-14

• Test 3 on April 11th

on CH 25, 26, 27

Include
RC circuits
problems + LAB.

1 unit
of MATERIAL.

$$R = \frac{\rho \cdot L}{A}$$

