What is the physical interpretation of $\oint \mathbf{A} \cdot d\mathbf{l}$?

- A. The current density ${\boldsymbol J}$
- B. The magnetic field ${f B}$
- C. The magnetic flux Φ_B
- D. It's none of the above, but is something simple and concrete
- E. It has no particular physical interpretation at all

ANNOUNCEMENTS

- Homework 13
 - Due Wednesday Dec 6th
- Last class: Friday Dec 8th
 - Full wrapup of everything we learned this year
 - Don't miss it!
- Final Exam: Tuesday Dec 12th
 - 12:45pm-2:45pm
 - In this room (BPS 1415)
 - See mee for accomodations

SPECIAL COLLOQUIUM DANNY'S PROMOTION TALK

- Tuesday, Dec 5th
- 4:10pm-5:10pm
- In this room (BPS 1415)

MAGNETIC DIPOLES



The leading term in the vector potential multipole expansion involves:

 $\oint d\mathbf{l}'$

What is the magnitude of this integral? A. RB. $2\pi R$ C. 0 D. Something entirely different/it depends!



Two magnetic dipoles m_1 and m_2 (equal in magnitude) are oriented in three different ways.



Which ones can produce a dipole field at large distances?

- A. None of these
- B. All three
- C. 1 only
- D. 1 and 2 only
- E. 1 and 3 only

