

Chapter 9 Review

DOMAIN THEORY

MAGNETIC FIELD MAPS

RIGHT HAND RULES

TRIUMF

- Be familiar with the TRIUMF particle accelerator both the concept of how it works and the math behind the calculations. Can you sketch it and label it?
Electron gun & ionizer: how does it work?
Linear accelerator : $E_e \rightarrow E_k$
Steering with Electrostatics (when speed is low): $F_e = qE = aV/d$
Cyclotron \rightarrow bring it up to $0.75c$ (75% speed of light). How? $E_e \rightarrow E_k$ Why a circular path?
It's clever.
Steering with RHR #3 – magnetic force on moving charge $\rightarrow F_B = qvB$

MASS SPECTROMETER

- Be familiar with the mass spectrometer both the concept of how it works and the math behind the calculations. Can you sketch it and label it?
- Electron gun & ionizer: how does it work?
- Linear accelerator : $E_e \rightarrow E_k$
- Velocity accelerator : $F_e = F_B$
- Tracing a circular path and determining mass $F_c = F_B$

LENZ'S LAW

PROBLEMS

- Review homework problems
- P. 476 33, 34, 35, 40, 44, 48