

Questions

1. How does a synchrotron work?
2. Why do colliders have a kinematic advantage?
3. How are the kinematics of 2-body and 3-body decays fundamentally different?
4. How can you tell anything about the neutrino mass by looking at the electron energy spectrum in neutron beta decay? Do you think that the experiment is done with free neutrons?
5. What is *luminosity* and why is it important?
6. What experimental information do you need to identify a particle?
7. In very simple terms, what is the basis of operation of most particle detectors?
8. How is the momentum of a particle usually determined?
9. A muon is essentially a heavier version of an electron. Yet they are easily distinguished in particle detectors even at very high energy where the masses are kinematically insignificant. How and why?