Cosmic Ray Muon Detector (CRMD) Vocabulary Fun

Hint: Some definitions may be found within the Cosmic Ray eLab. Consider the Library Glossary, Upload Geometry, and Data tabs. If you need a detector number under the Data tab, use DAQ ID 6200.

1. Distinguish between cosmic rays and muons. Bonus: Where do cosmic rays come from?
2. What is muon flux?
3. What measurements of muons change due to relativity?
4. Distinguish between the concepts of Lifetime and Half life
5. What is double coincidence (bonus: Triple coincidence). Why is it important?
6. What causes a trigger? What is the trigger rate?
7. Define angle of acceptance.
8. What is the importance of the geometry of the detector? What comprises the geometry of a detector? How does a stack of counters differ from an array of counters?
9. Represent nanosecond in words, decimal, and scientific notation. What system of units do we usually use in QuarkNet?
10. What is meant by muon speed? How does time of flight help us find the speed? Any other uses of time of flight?
11. Define gate width? How does it work?
12. What is meant by blessing data? What do the blessing charts tell us? What criteria so we use to distinguish between a change or declaring something constant?
13. What is a cosmic ray shower?
14. Define: histogram, bin width, arithmetic mean, and median.
15. How does the di-muon problem effect event counts?