

Examen Experimental Techniques in Particle Physics

Master Fysica en Sterrenkunde

11 januari 2021

mondeling van prof. Steven Lowette (VUB), 20 min voorbereidingstijd

Student 1

- What is a trigger, and why do we need it? How is the overall trigger-strategy approached in present-day experiments, like CMS?
- How is ideal particle propagation described in a detector with a solenoidal magnet? How many parameters are needed? What affects departure from this ideal description? What is special for electrons?
- Describe Neyman's method.

Student 2

- Describe how a hadron collision manifests itself in our detectors.
- What are the differences in terms of tracking for pions, muons, and electrons, eg. what concerns momentum resolution.
- How can a signal selection be optimized in the case of multiple observables?

Korte bijvragen

(bij alle studenten, zonder voorbereidingstijd)

- Wat is het look elsewhere effect?
- vraag die we vergeten zijn