

Life of a Particle : Assignment 2

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Due Date : DD/MM/2019

How to submit

This assignment should be submitted by replying to the email sent out requesting its submission.

You should include a single PDF file that has any verbal description of the answers to the questions, along with description of what computer code files go with which question.

Please bundle this all into a single tarball and submit this one tarball file.

Naming convention: `lifefofparticle_part2_assignment1_YOURNAME.tar`

Particle separation through measurement of energy loss

Have this on my German lectures, will translate and write it here.

Curved track fitting in constant magnetic field

Will write properly. Idea is:

- In the toy detector, I provide measurements on each layer of the Y positions of a 'pixel-hit', along with its measurement error. They draw the points. See it makes sense with presence of B field.
- They fit the track. Get fit parameters.
- They compute the resolution on the track curvature.
- Case 1: the pixel size is reduced by factor 2. Fancier detector. Refitting: how is the resolution improved? And for a reduction of pixel side by factor 3?
- Case 2: back to regular pixel width. But an extra layer is added at the end of the detector. The fit has one extra point. How is the resolution improved?