



Contribution ID: 38

Type: **not specified**

Muon Simulation Project - Software, Optimisation Methods and Online Training for Muon Users

Monday, 11 September 2023 18:20 (10 minutes)

Optimising the sample mounting to stop the muon beam is helpful when planning experiments with limited sample quantity. Using the instrument range curve is a good start in simple cases but computational tools can be used to help for more complex cases. We have established a design, search, and optimisation (DSO) process using musrSim and SRIM software tools to help in planning complex experiments. This has been tested against experimental data to confirm the comparison with the simulations. Comparisons have also been made with the methods previously proposed by Ziegler [1] and Elson et al. [2]. To explain the method to new muon users we are also preparing an online training course that will be available soon.

[1] Ziegler, J. F.; Biersack, J. P.; Littmark, U. (1985). *The Stopping and Range of Ions in Matter*. New York: Pergamon Press. ISBN 978-0-08-021607-2.

[2] Frank Elson et al 2023 J. Phys.: Conf. Ser. 2462 012024 doi:10.1088/1742-6596/2462/1/012024

Presenter: SENGUPTA, Debjyoti (STFC)

Session Classification: Early Career Presentations

Track Classification: Early Career Presentation