



Canadian Association
of Physicists

Association canadienne
des physiciens et physiciennes

Contribution ID: 262

Type: Oral (Non-Student) / Orale (non-étudiant(e))

Not So Straightforward: Linear Fits in Real Life

Friday 13 June 2025 10:00 (15 minutes)

Imagine constructing a cosmic ray detector: a few layers of scintillator, some SiPMs, and an excited student wiring it all together. Easy! Your design is segmented to allow for tracking, but what is the best way to reconstruct that track? How do you properly account for all positions within a scintillator volume being equally likely? Come join me for a light-hearted talk about how to draw straight lines and how this applies to searches for new physics in proposed long-lived particle experiments.

Keyword-1

LLPs

Keyword-2

Fitting

Keyword-3

MATHUSLA

Author: MILLER, Caleb

Presenter: MILLER, Caleb

Session Classification: (PPD) F1-1 Particle physics at colliders II and muon g-2 | Physique des particules aux collisionneurs II et muon g-2 (PPD)

Track Classification: Technical Sessions / Sessions techniques: Particle Physics / Physique des particules (PPD)