THE UNIVERSITY OF WARWICK

Update on FLUKA π, μ production calculations

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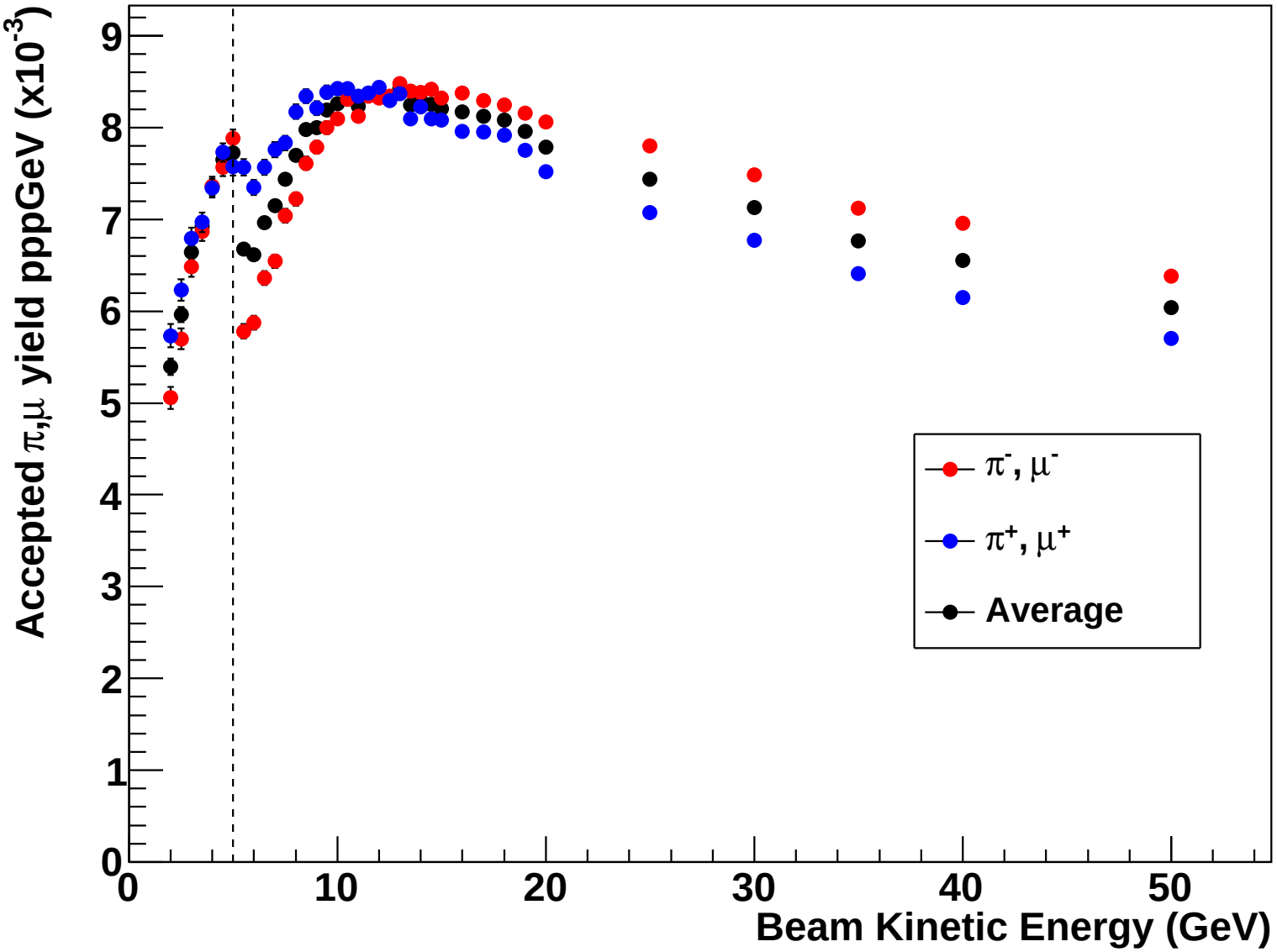
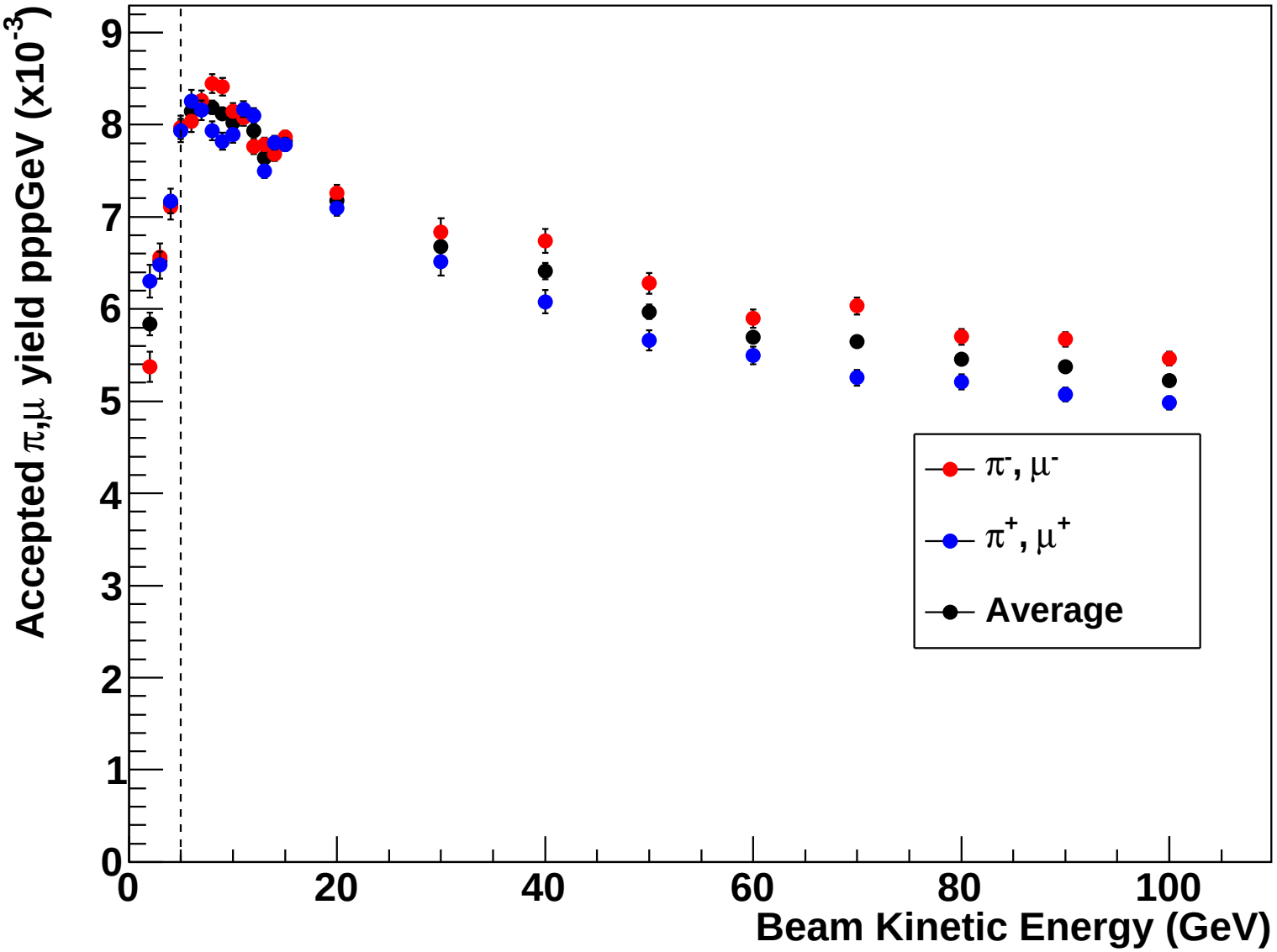
Introduction

- Using latest version of FLUKA: 2011.2.4
  - Many updates and improvements to physics routines
  - Using PEANUT (cascade pre-equilibrium model) event generator for all energies
- Calculation of accepted π, μ yield for Study 2a geometry
  - Using simple KE cut ($40 < \mathrm{KE} < 180$ MeV) for $z = 50\,\mathrm{m}$
- New results show much better behaviour near 5 GeV.

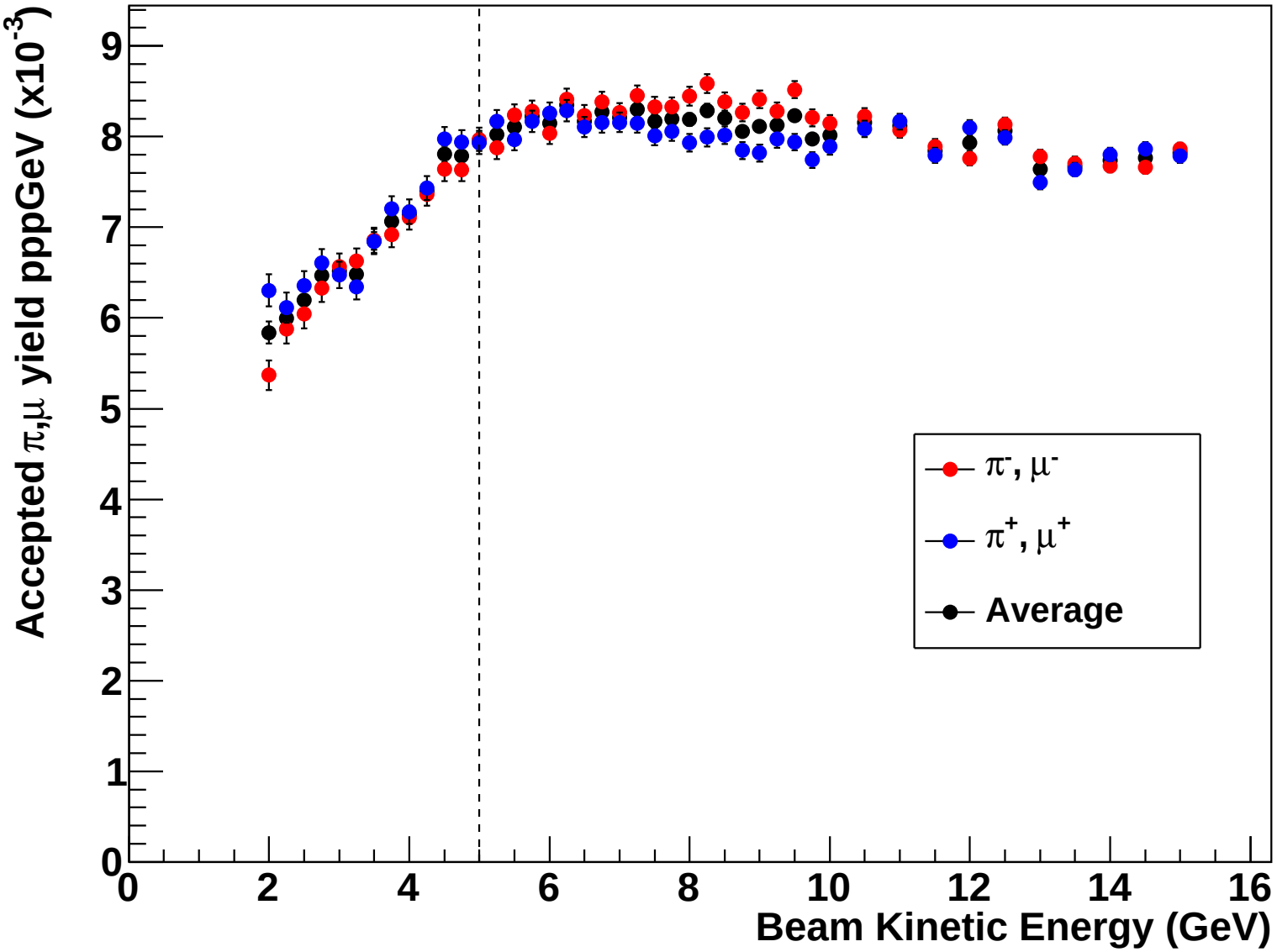
Reminder of old Fluka (2008) results: problem near 5 GeV



Fluka (2011) Yields for $z = 50$ m



Fluka (2011) Yields for $z = 50$ m (zoomed E_{beam} range)



Reminder: Study 2a geometry