Simulations overview

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Simulations group

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What we have now

Two GitHub repositories:

GEANT4.10
https://github.com/picoexperiment/picoGEANT4.10.3.git

GEANT4.11
https://github.com/picoexperiment/picoGEANT4.11.3.git

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About

Code for Monte Carlo simulations using GEANT4.10.3

ericvj Update Makefile 188aec7 · 10 months ago 22 Commits

DBC-from-40	first commit with code from SVN repository	4 years ago
GEANT4_10_3_p3	first commit with code from SVN repository	4 years ago
PICO-40L	CMakeLists.txt file changed in PICO-40L	3 years ago
PICO-40L_STL	first commit with code from SVN repository	4 years ago
PICO500	Add the new piezo connectors on the two rows of piezos f...	2 years ago
PICO500_STL	first commit with code from SVN repository	4 years ago
PICO60_STL	remove PICO60_STL/build/G4Movie.mpeg	4 years ago
PICO_GEANT4_10	first commit with code from SVN repository	4 years ago
PICO_MCNP	first commit with code from SVN repository	4 years ago
Makefile	Update Makefile	10 months ago
README.md	first commit with code from SVN repository	4 years ago

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Releases

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Packages

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Contributors 4

agarciaviltres Alejandro Santiago Gar...

cbcoutu

README

What we have now

GEANT4.10.3 GitHub repository:

➢ PICO-40L GEANT geometry

➢ PICO500 GEANT and CAD (with cube hall and DEAP tank)

➢ PICO40L CAD

➢ PICO60-CF3I GEANT

➢ PICO60-C3F8 CAD

➢ Some other geometries: PICO-2L run1, COUPP4kg

➢ BEAM 30ml and CYRTE, Drexel chamber

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About

Code for Monte Carlo simulations using GEANT4.11.3

ericvj Update Makefile ⋯ 5ab9c96 · 3 months ago 🕐 4 Commits

PICO40L	Uploading code and GEANT4	3 months ago
PICO500	Uploading code and GEANT4	3 months ago
Makefile	Update Makefile	3 months ago
README.md	Update README.md	3 months ago
geant4-v11.1.3.tar.gz	Uploading code and GEANT4	3 months ago

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👁 3 watching

🍴 0 forks

Releases

No releases published
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PICO40L and PICO500 with GEANT4.11.3

Packages

No packages published
Publish your first package

What we have now

GEANT4.11.1 GitHub repository:

➢PICO40L GEANT geometry

➢PICO500 GEANT (with cube hall and DEAP tank)

What we have now

- How to use in one-two-three:

1. clone: gh repo clone picoexperiment/picoGEANT4.11.3 or git clone https://github.com/picoexperiment/picoGEANT4.11.3.git

2. cd picoGEANT4.11.3

3. make

provides compilation of GEANT4 and recent both: PICO-40L and PICO500

- You need a github account, request access to GEANT code (Eric)

- Upgraded code to newer GEANT4 version

Old version: GEANT4.10.03.p03
(released in October 2017)

New version: GEANT4.11.01.p03
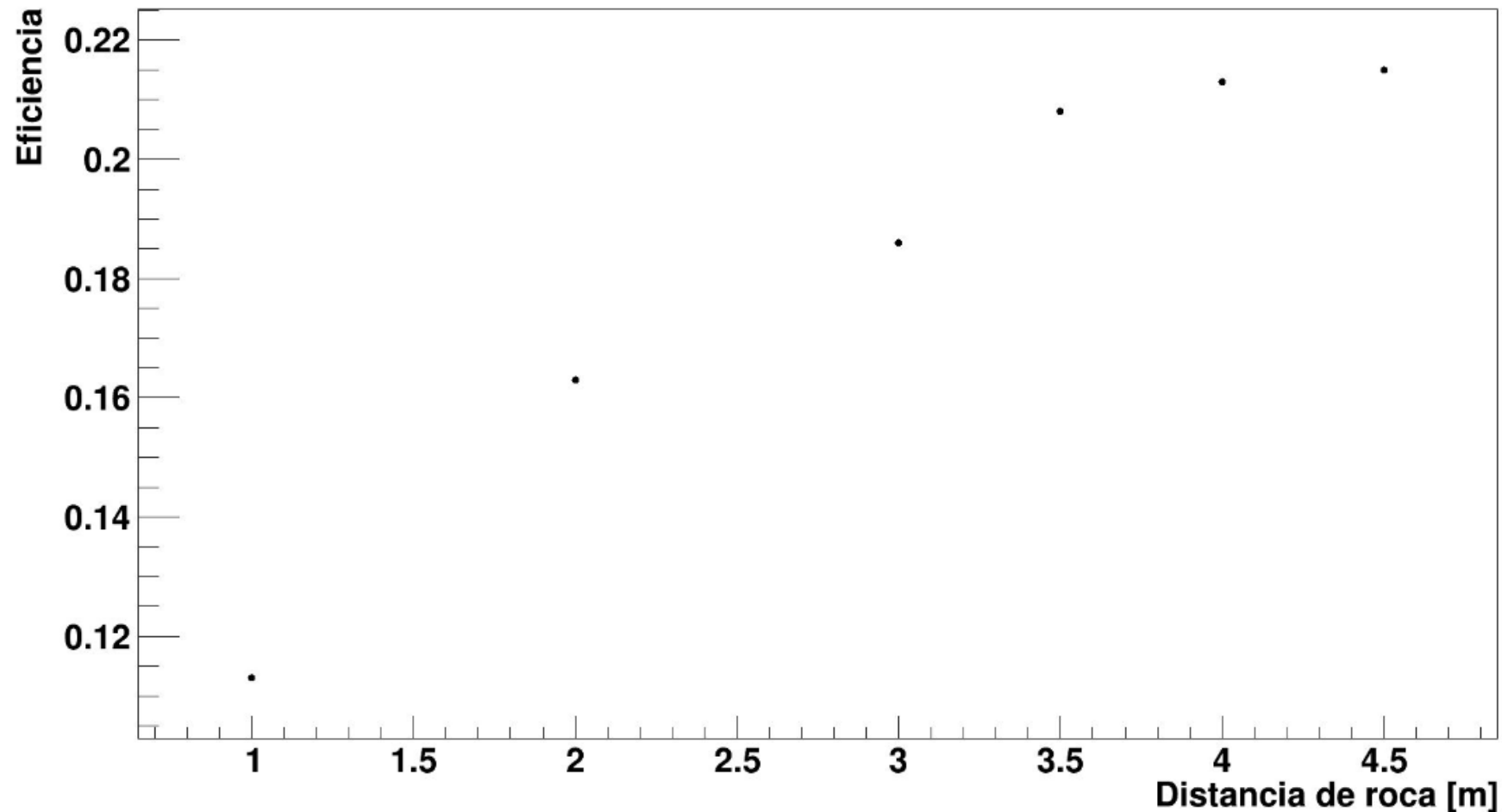(released in November 2023)

Ready and working!

PICO-40L: status

- Neutron backgrounds in the GEANT4 model with solids (Alberto): updating previous expectation from CAD model (Fernando)

- Calibrations: comparing data and Monte Carlo (Rajan)

- Neutron backgrounds without water shielding (Alberto): comparison between data and Monte Carlo (dominated by rock neutrons)

PICO-40L: status

- ~65 singles and ~154 multiples per month

Need to
coordinate with
analysis
to know fiducial
and other cuts

Backgrounds, backgrounds, and backgrounds

- We have been "sub-dominated" by neutron backgrounds:

COUPP4, PICO-2L

- Last PICO-60 run ended due to neutron backgrounds

- PICO-40L run could have the same ending once other backgrounds are understood

- We are still on time to avoid it in PICO-500