

Running benchmarks and longitudinal profiles

General C8 call 23.06.2022

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Scenarios under consideration:

1. 4 Vertical electron showers (10TeV, 100TeV, 1PeV, 10PeV)
2. 4 45 degree electron showers (10TeV, 100TeV, 1PeV, 10PeV)
3. 10 Vertical 10TeV proton showers with different seeds

Workstation specifications:

- CPU: AMD Ryzen Threadripper 2970WX 24-Core Processor
Base clock speed: 3GHz
Max clock speed: 4.2GHz
L3 cache: 64 MB
- RAM memory: 64 GB

Run specifications:

branch: 502-examples-need-some-polishing
commit: 94875ed461a9de73d06881ea0d83941833c99fb4
seed: 2723141261 (only for em_shower.cpp)
examples: em_shower.cpp & vertical_EAS.cpp

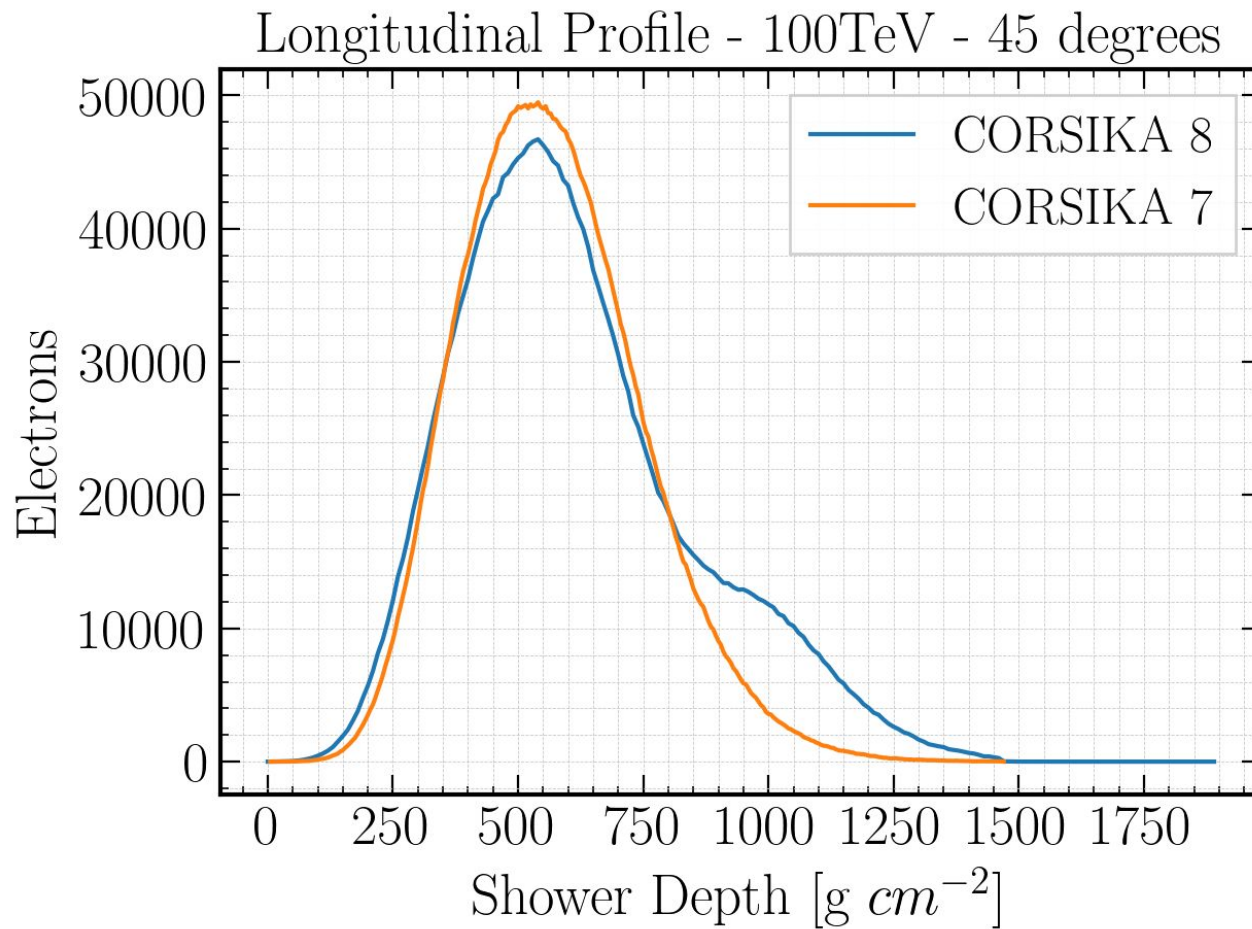
Runtimes vertical electron showers

	10 TeV	100 TeV	1 PeV	10 PeV
Corsika 7	0 mins 15.416 sec	1 mins 41.622 seconds	15 mins 35,806 seconds	2 hrs 27 mins 43.140 seconds
Corsika 8	17 mins 19.577 seconds	47 mins 35.103 seconds	5 hrs 31 mins 08.098 seconds	23 hrs 57 mins 07.136 seconds

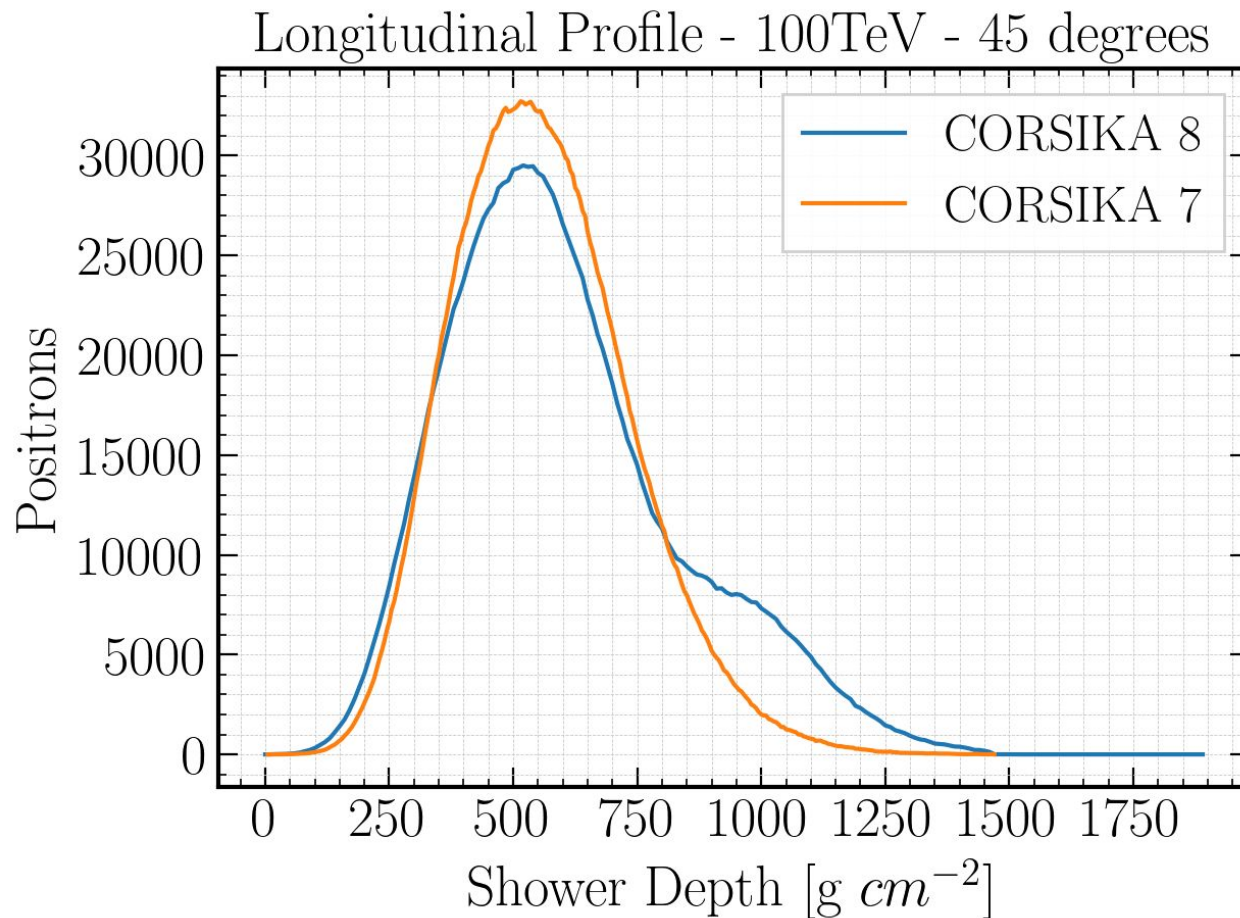
Runtimes 45 degree electron showers

	10 TeV	100 TeV	1 PeV	10 PeV
Corsika 7	0 mins 15.703 seconds	1 mins 40.542 seconds	15 mins 35.379 seconds	2 hrs 33 mins 37.703 seconds
Corsika 8	15 mins 59.414 seconds	39 mins 20.638 seconds	4 hrs 33 mins 15.994 seconds	18 hrs 38 mins 44.902 seconds

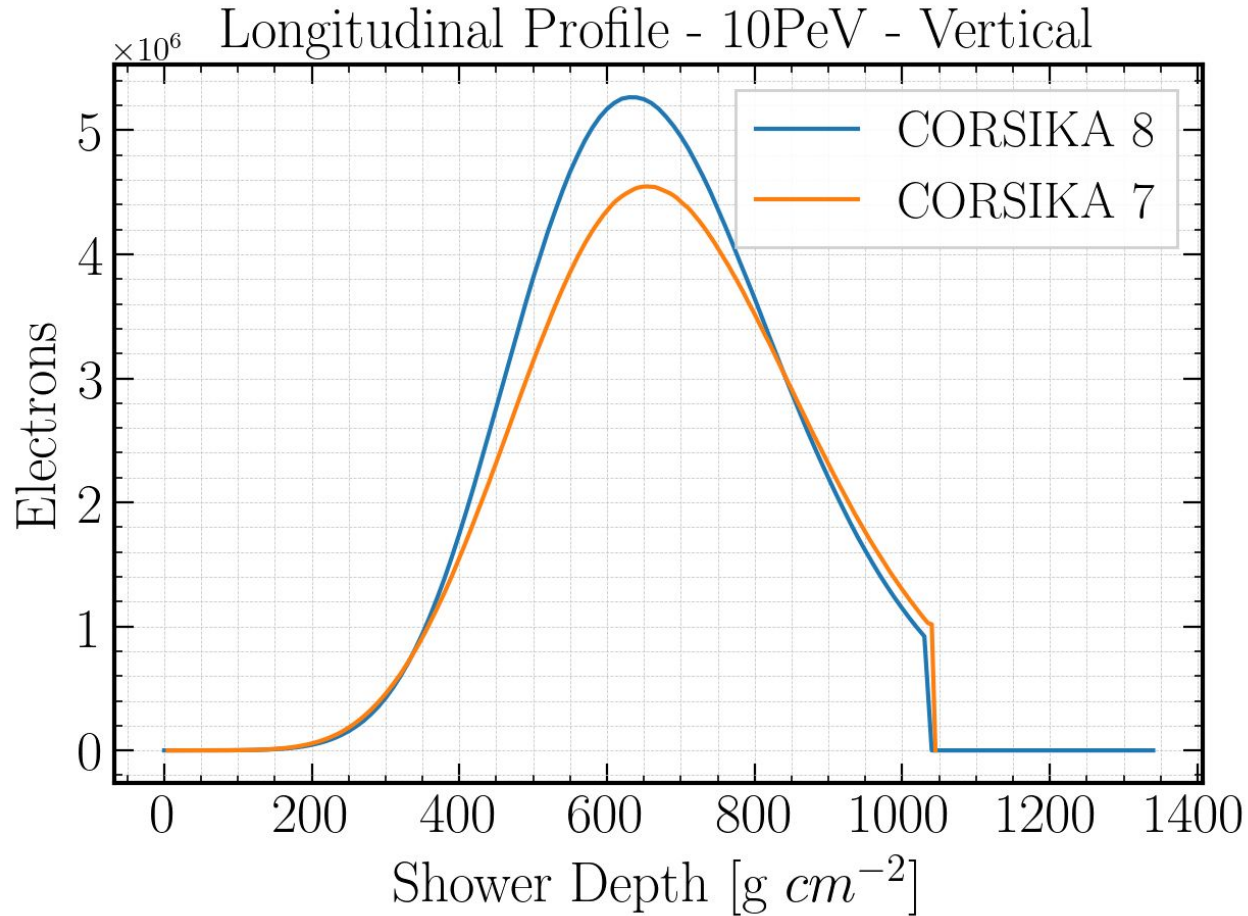
Cherry picked longitudinal profiles for em shower



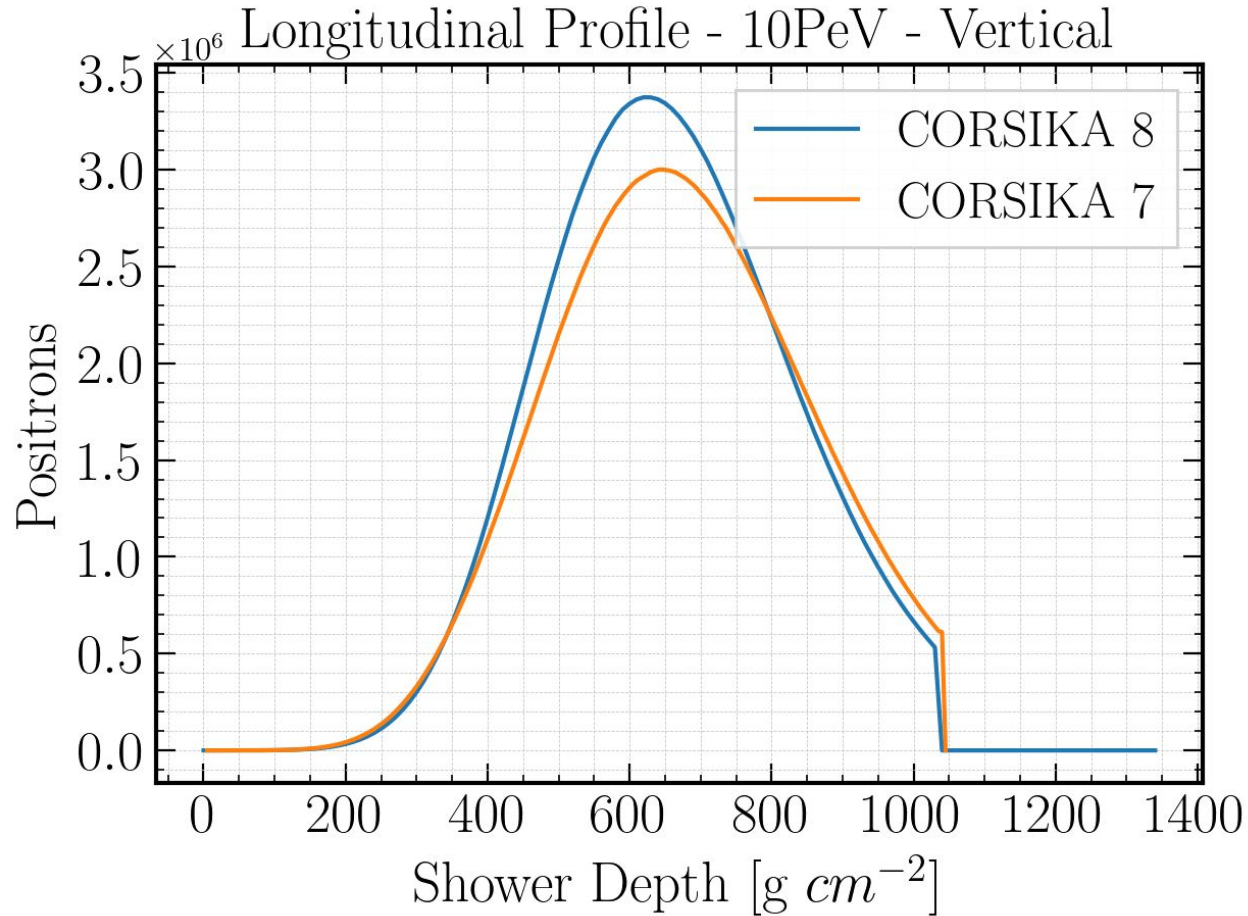
Cherry picked longitudinal profiles for em shower



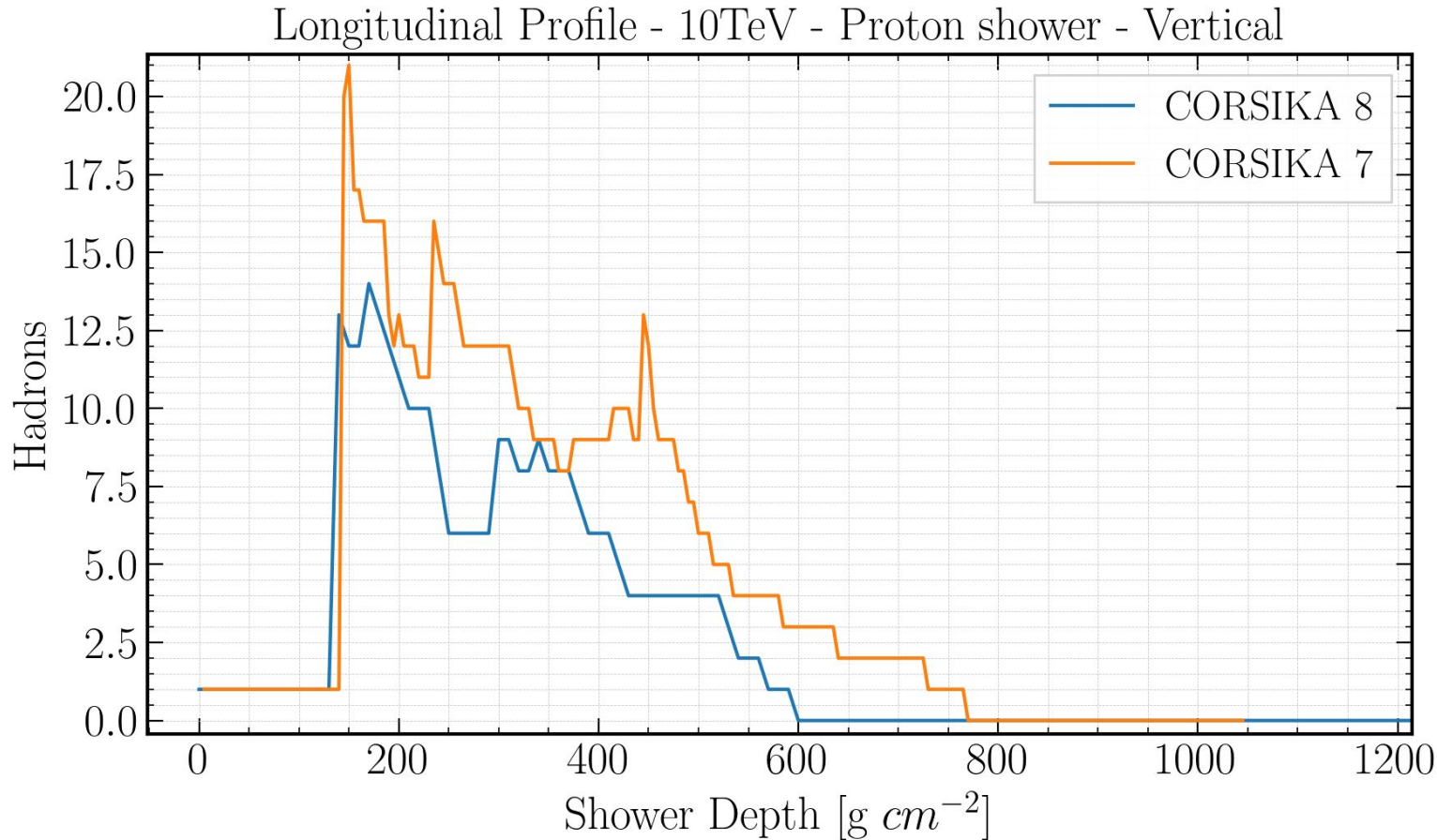
Cherry picked longitudinal profiles for em shower



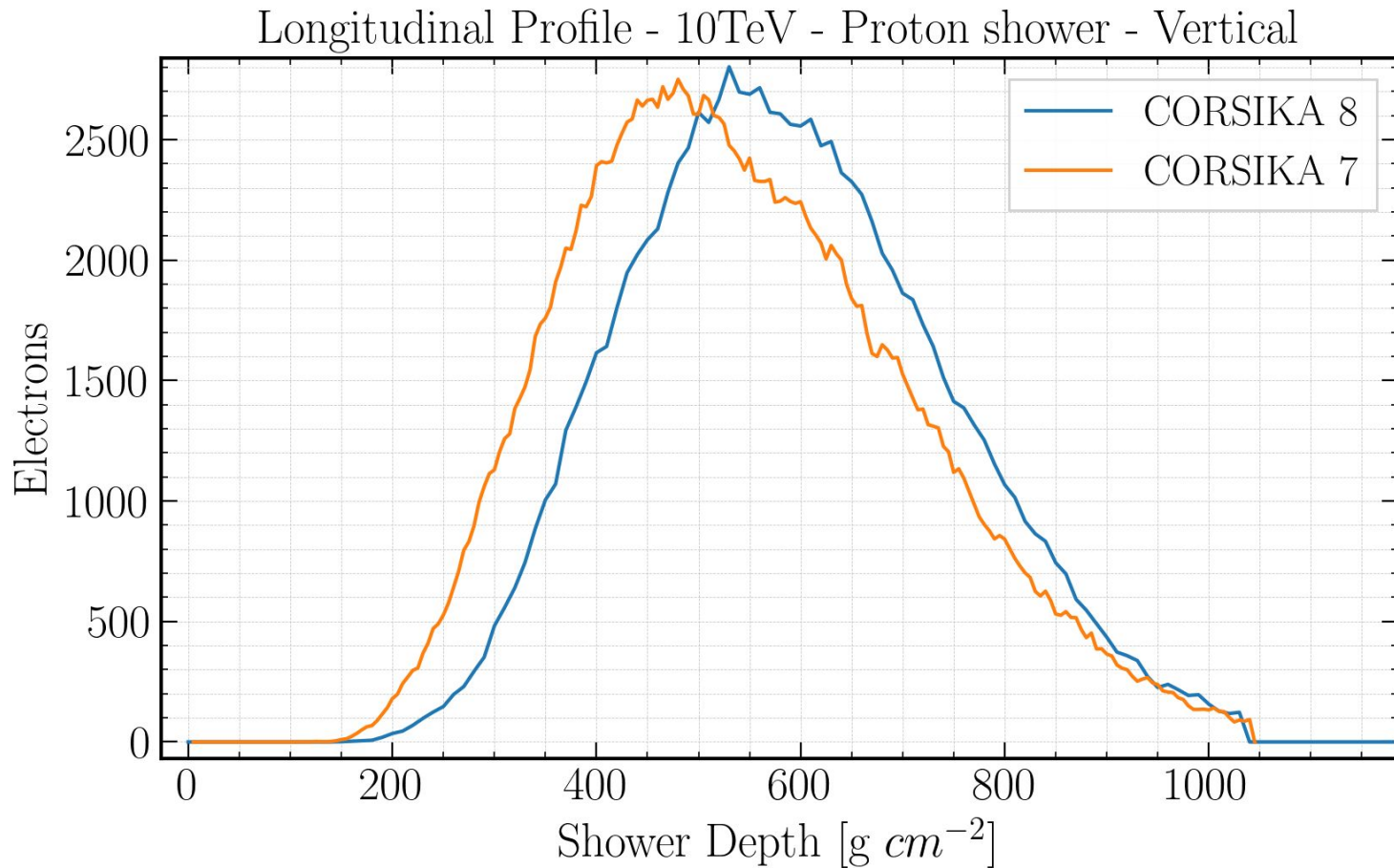
Cherry picked longitudinal profiles for em shower



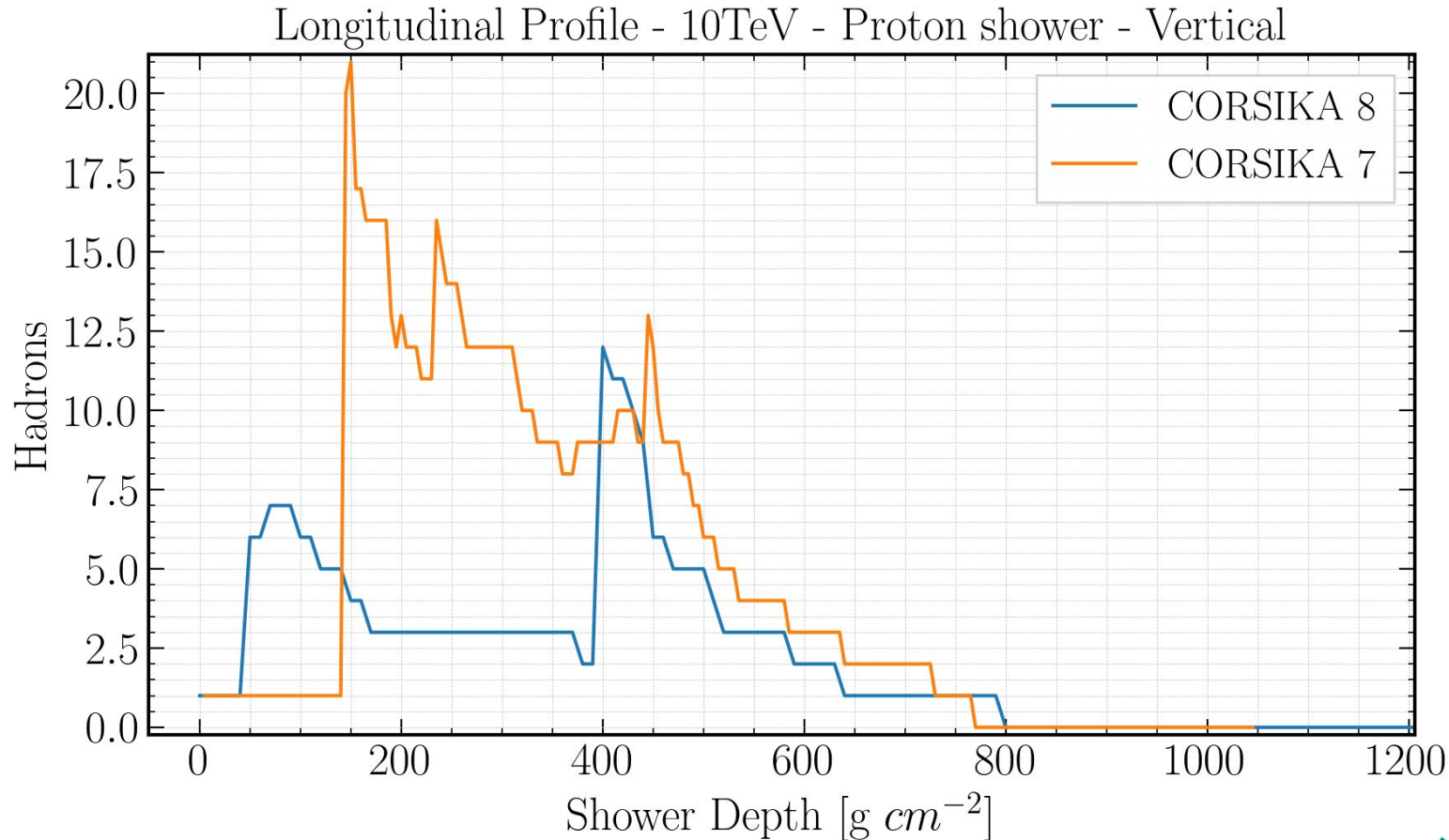
Cherry picked longitudinal profiles for proton shower



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Cherry picked longitudinal profiles for proton shower

