

# Updates on running high energy iron showers $10^{17}\text{eV}$ & $10^{16}\text{eV}$

General C8 call 25.04.2023

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# New branch for testing - testing-branch-May23

[https://gitlab.iap.kit.edu/AirShowerPhysics/corsika/-/tree/testing-branch-May23?ref\\_type=heads](https://gitlab.iap.kit.edu/AirShowerPhysics/corsika/-/tree/testing-branch-May23?ref_type=heads)

- On par with current master branch
- Includes MR 501 (newest version of PROPOSAL)
- Includes MR 451 (stochastic photon propagation)

# I run some showers using corsika.cpp

latest commit: 9ba085be217085cfb4221e2a8e491897586d3bbb

The configuration was:

Iron shower  $10^{17}\text{eV}$ , em cuts = 500keV, hadron cuts = muon cuts = 0.2GeV

- Energy:  $10^{17}\text{eV}$  & thinning:  $\epsilon=1\text{e-}6$ , max weight =  $1\text{e}2$
- Energy:  $10^{17}\text{eV}$  & thinning:  $\epsilon=1\text{e-}1$ , max weight =  $1\text{e}7$
- Energy:  $10^{16}\text{eV}$  & thinning:  $\epsilon=1\text{e-}5$ , max weight =  $1\text{e}3$

All showers failed with the following message:

```
UrQMD terminating without collision !? ...
```

```
ebeam= 0.22899616230827952
```

```
projectile mass=          1
```

```
projectile charge=        0
```

```
target mass=             14
```

```
target charge=           7
```

```
iterations =             50000
```