

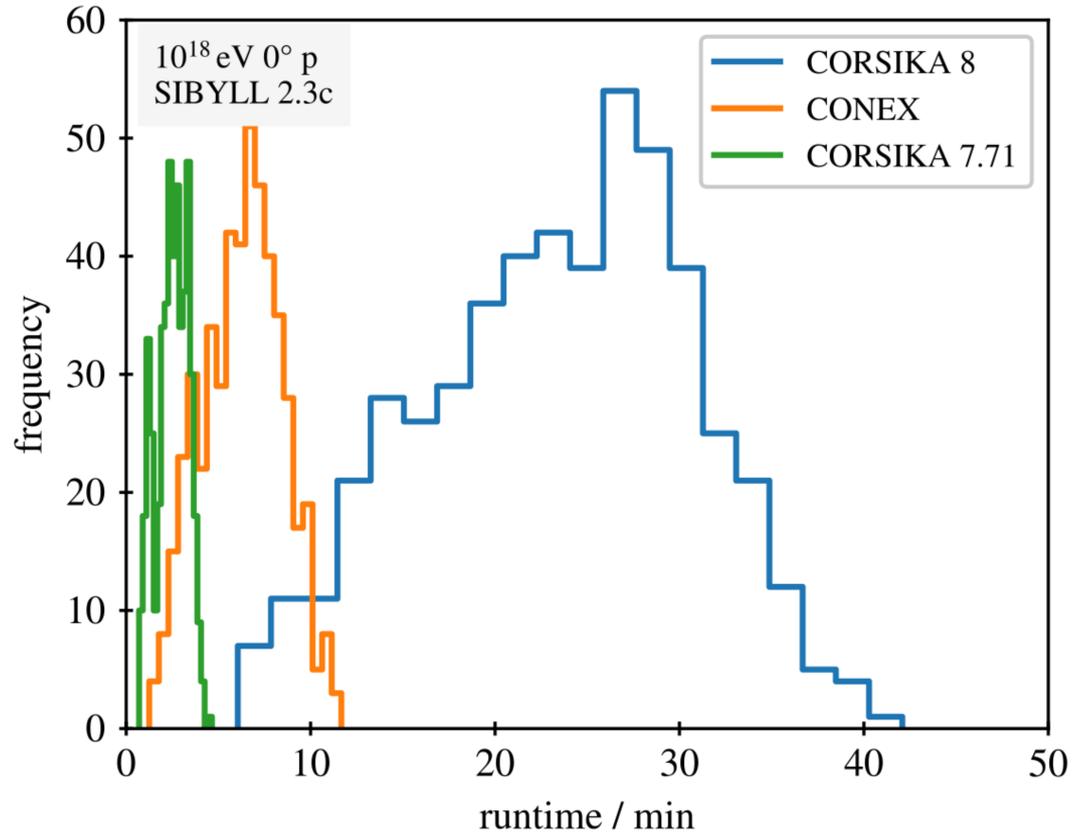
Runtime comparisons between CORSIKA 7 and 8

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Setup

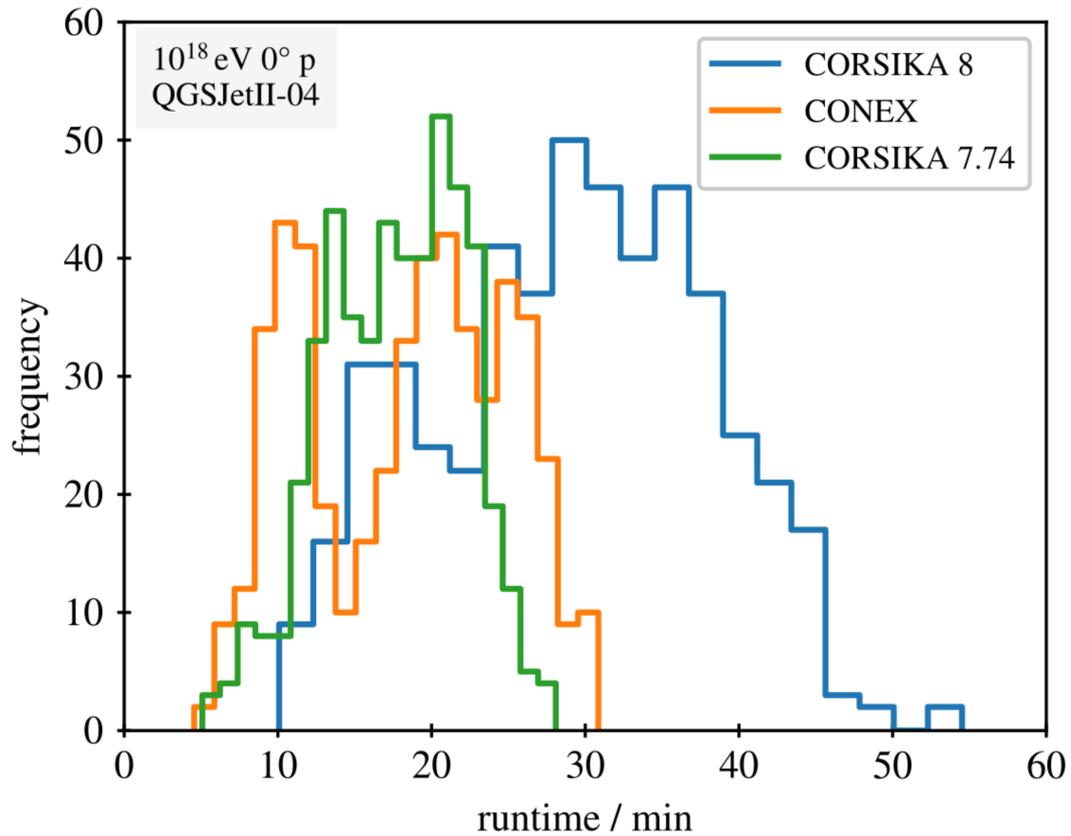
- hadronic/muonic shower components with EnergyLoss / BetheBlochPDG
- **Disclaimer:** rather old data (~ 2020 workshop)
- many things changed since then:
 - logging/debugging output removed
 - magnetic field added
 - stack processing/particle deletion changed for cascade history

SIBYLL



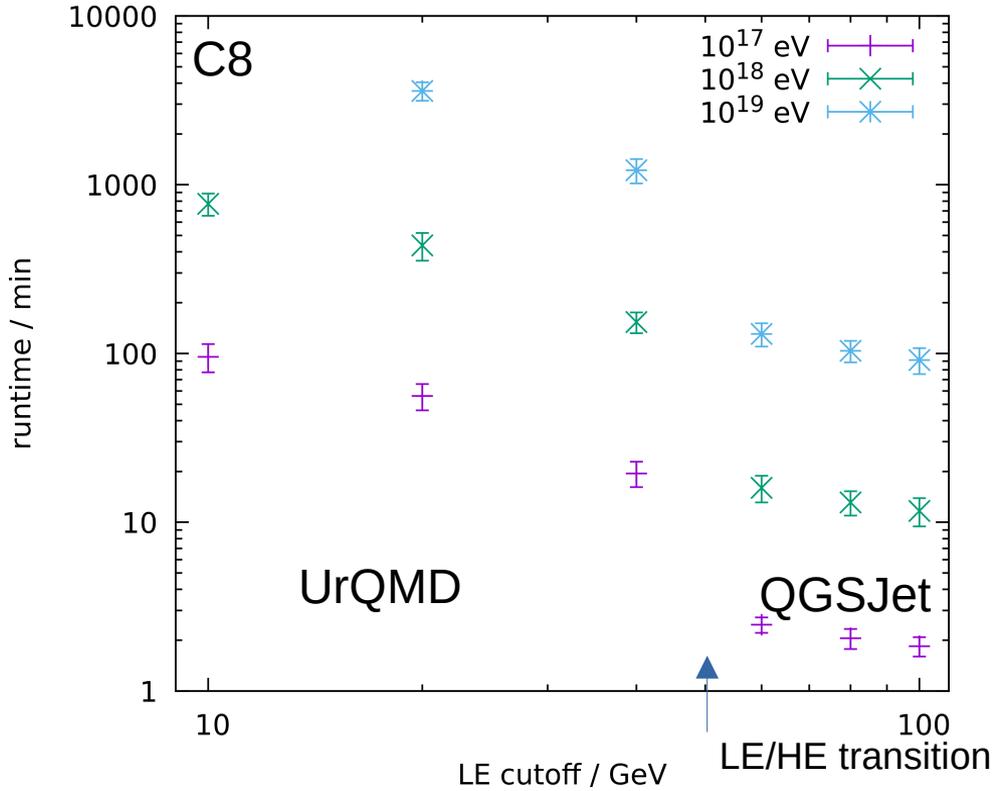
cutoff 60 GeV

QGSJet



cutoff 60 GeV

Influence of energy cutoff



Thoughts and outlook

- check again for „refactory-2020“ after tracking bug has been fixed
- full shower with EM component
- Ideas for improvement:
 - sampling from competing processes with only one choice
 - decays in lab frame vs boost to rest frame
 - better representation of particle state, e.g. direction instead of momentum
 - some quantities are recalculated in many modules, e.g. β , γ
- On the other hand, C8 cannot make some simplifications:
 - geometry, multiple media, transitions, different compositions,...