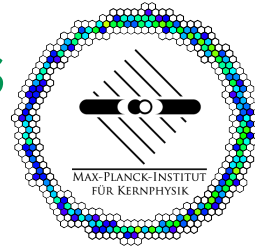
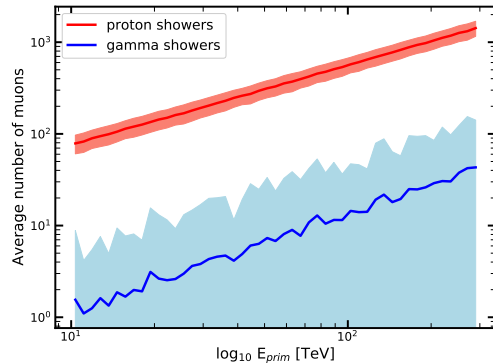


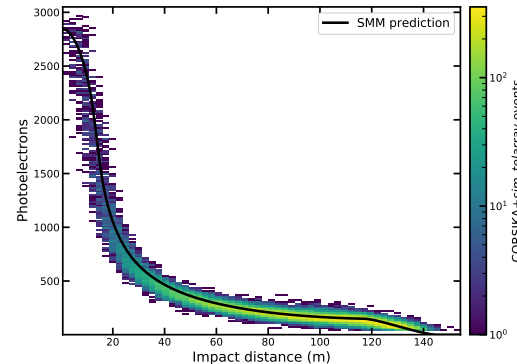
Muons as a tool for background rejection in IACT arrays



- Distinguishing gamma-ray events from hadrons is crucial for gamma-ray astronomy
- Traditional methods perform less competitively at the highest energies
- Number of muons produced by showers differs greatly between gamma-rays and hadrons



- Cherenkov light produced by muons can be approximated analytically
- *Simplified Muon Model*: can tell if a muon will trigger a telescope from its basic properties
- Allows exploration of high-statistics and thus the very-rare, muon-poor hadron showers
- Tested against full simulations



- Muons are “detectable” if:
 1. Bright enough to trigger
 2. Inside the telescope field of view
 3. Far enough from main shower (distinguishable signal)
- Efficient muon identification can lead to background rejection powers of up to 10^{-5} above tens of TeVs
- The telescope needs to be large enough!

