Current Status of KASCADE-Grande
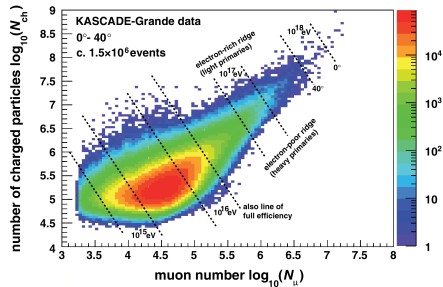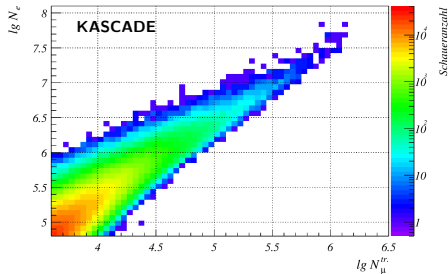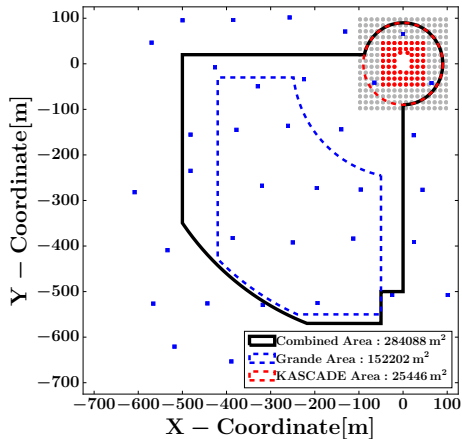
Sven Schoo

Karlsruher Institut für Technologie - Institut für Kernphysik
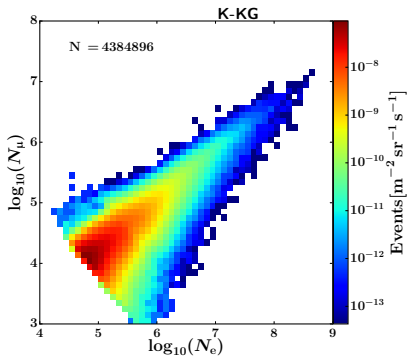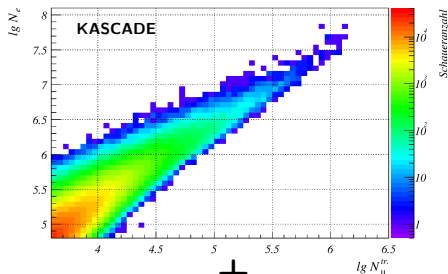
21.09.2016

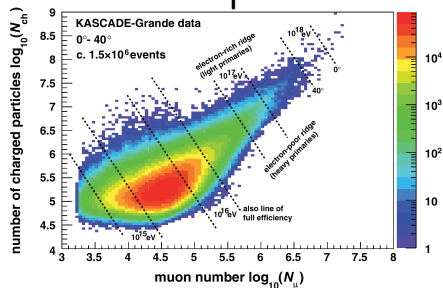Karlsruher Institut für Technologie

KASCADE, KASCADE-Grande, and K-KG

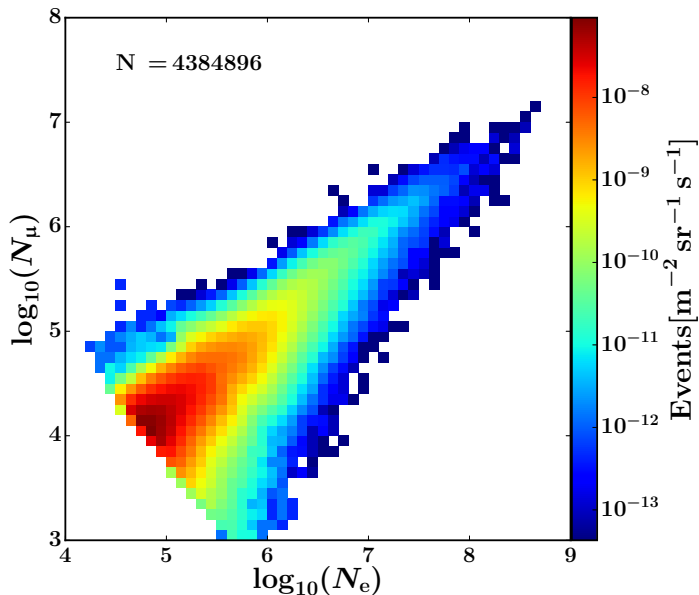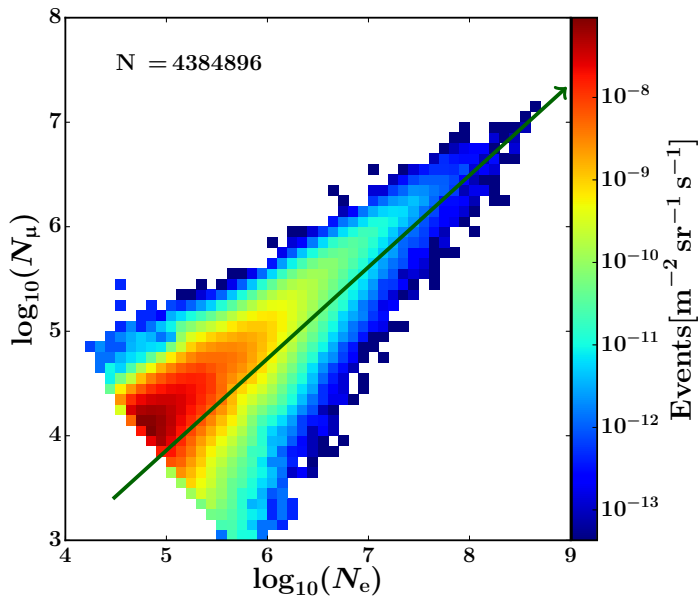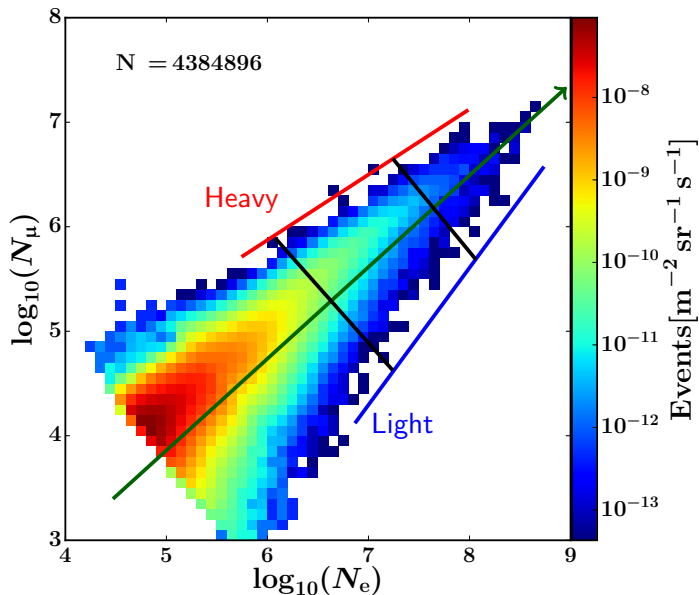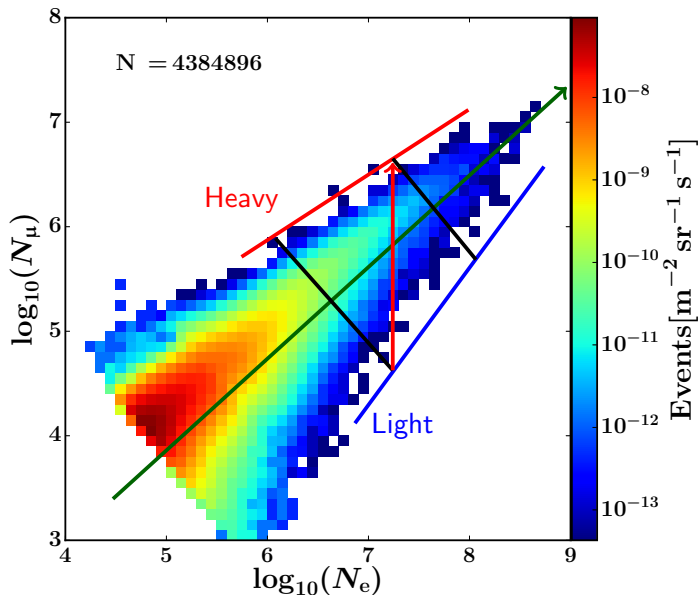# KASCADE, KASCADE-Grande, and K-KG

Energy and Mass: Reconstruction

Energy and Mass: Reconstruction

Energy and Mass: Reconstruction

Energy and Mass: Reconstruction

QGSJetII4 vs EposLHC - Simulations
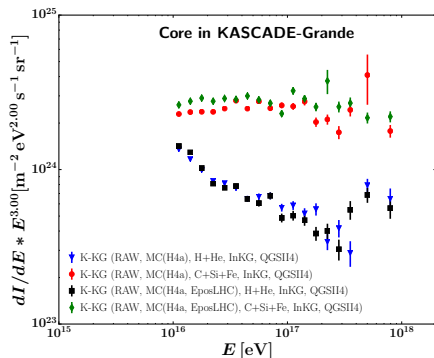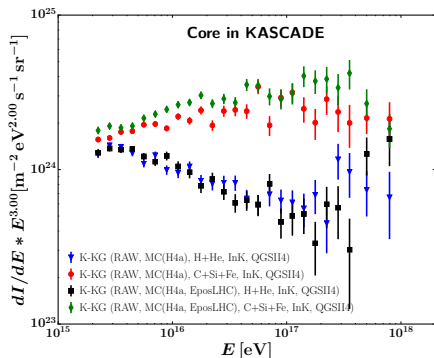
QGSJetII4 vs EposLHC - Measurement
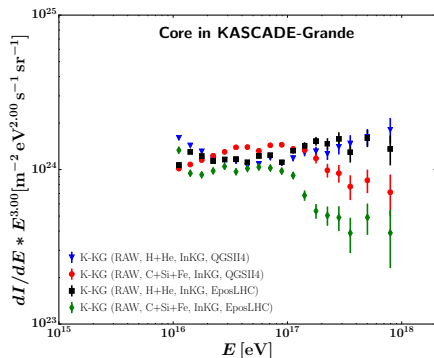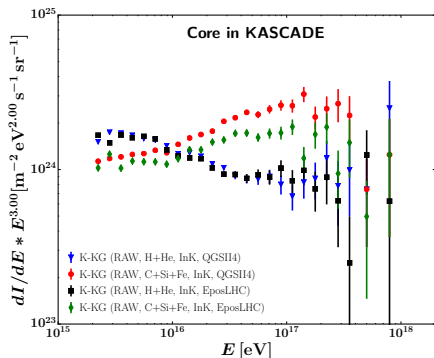
Core in K vs Core in KG - QGSJetII4

Disagreement between very forward muons (in K) and muons away from the axis (in KG)
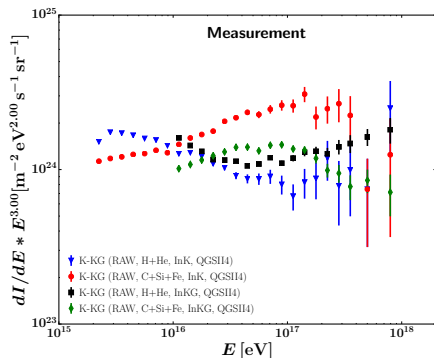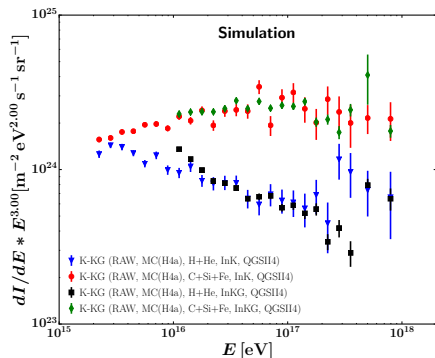
Disagreement only in measurement.

Known: Predicted LDF is too flat (slope parameterized but fixed during reconstruction).

Unknown: In K or in KG better? Truth in between or beyond either?

Core in K vs Core in KG - EposLHC

Disagreement between very forward muons (in K) and muons away from the axis (in KG)

Disagreement only in measurement.

Known: Predicted LDF is too flat (slope parameterized but fixed during reconstruction).

Unknown: In K or in KG better? Truth in between or beyond either?

Core in K vs Core in KG - Sibyll 2.3
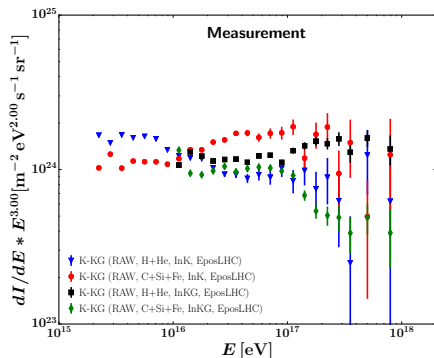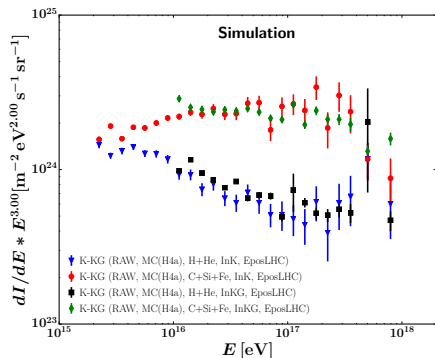
Disagreement between very forward muons (in K) and muons away from the axis (in KG)
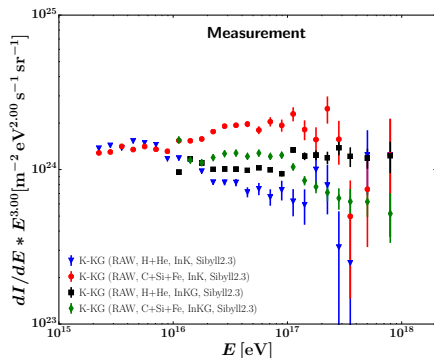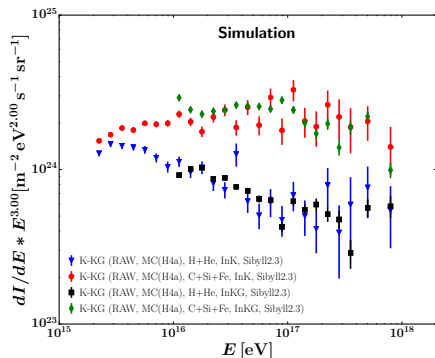

Disagreement only in measurement.

Known: Predicted LDF is too flat (slope parameterized but fixed during reconstruction).

Unknown: In K or in KG better? Truth in between or beyond either?

Summary

Models start to converge to similar predictions.

However:

Predicted development of muons inconsistent for all current models.

A new analysis is being performed.

Goal: Why is the predicted muon LDF too flat?

KCDC - New features and content end of the year.

KASCADE Cosmic ray Data Centre
Web: https://kcdc.ikp.kit.edu

Minor release in October:
The 'Spectra'plugin; publication of data-points + preview.
Additional exercises.

Release of NABOO in December:
Additional KASCADE Data
KASCADE-Grande
Detector description ready for detector simulation.