

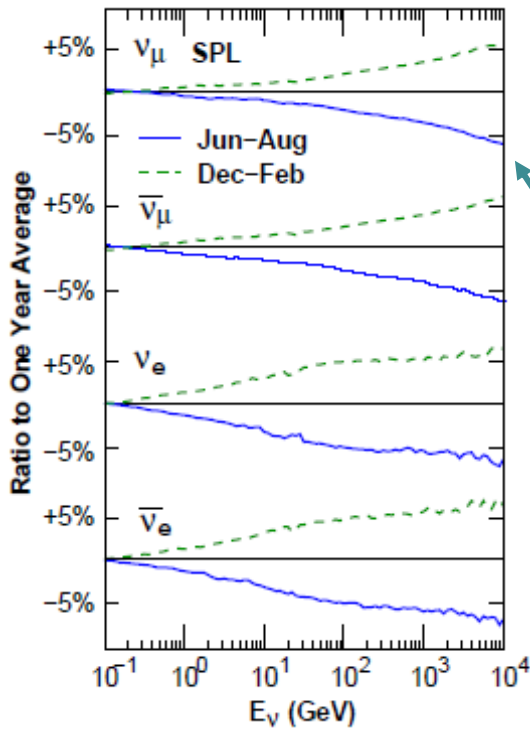
Seasonal Variations of the Unfolded Atmospheric Neutrino Spectrum with IceCube

Karolin Hymon, Tim Ruhe

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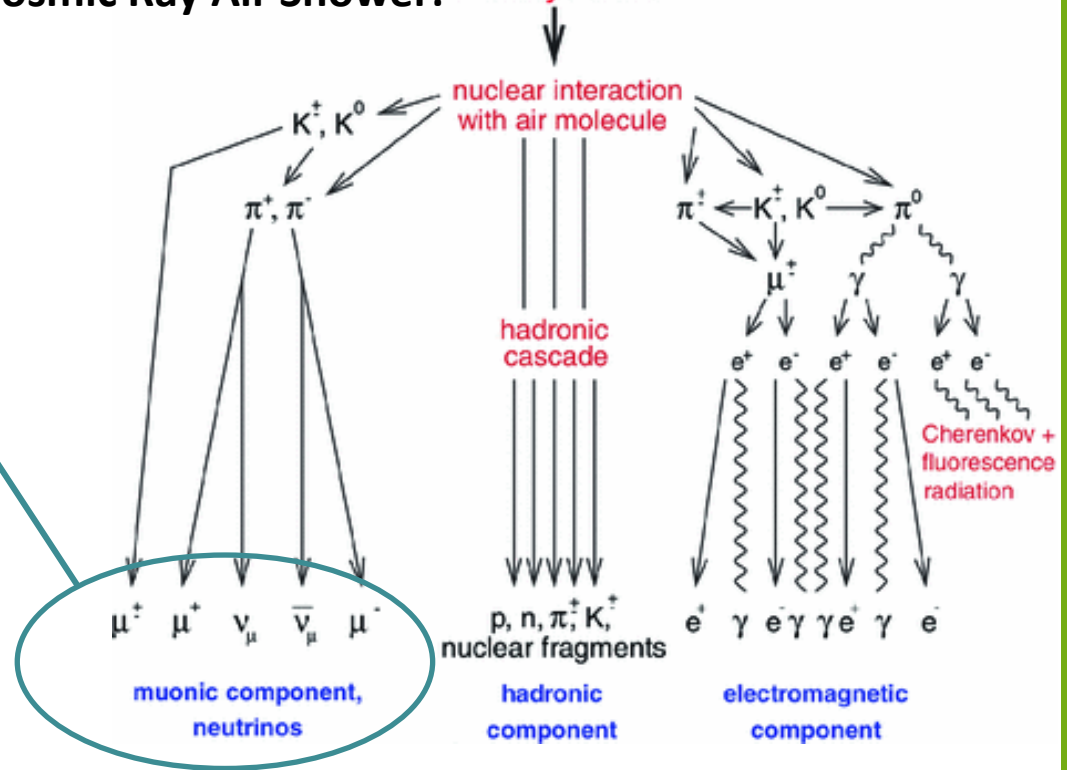
Seasonal Variation of Atmospheric Neutrinos

Expected Rate Variation at South Pole:



M. Honda et al., Phys. Rev. D 92 (2015)

Cosmic Ray Air Shower: Primary Particle



A. Zilles, Emission of Radio Waves in Particle Showers: Validation of Microscopic Simulations with the SLAC T-510 Experiment and their Potential in the Future Square Kilometre Array (2017)

Can we observe seasonal variations on the energy spectrum?

1

Spectrum Reconstruction: machine-learning-based unfolding

2

Uncertainty Treatment

3

Determination of seasonal variation by the flux ratio to the annual mean

A glimpse on the result:

Unfolding of 10% of the data taken between 2011 - 2018

