

## ATMOSPHERIC AND MIDDLE-TO-HIGH ENERGY TERRESTRIAL NEUTRINOS

Atmospheric neutrinos have energies ranging from 0.1 to 50 (and more) GeV.

New-generation neutrino experiments employ beams with energy of 0.5 to 5 GeV.

Typical detectors are water-Cerenkov or mineral oil detectors  $\rightarrow$  nuclei of interest are  $^{16}\text{O}$  and  $^{12}\text{C}$ .

Since energy and momentum transfer are (relatively) high the dominant process is quasi-free neutrino-NUCLEON interaction.

However then NUCLEAR modifications of the cross sections must be considered and can be relevant.