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Sub-GeV atmospheric neutrinos background in organic liquid scintillator mediums

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Atmospheric neutrinos are produced in interactions of cosmic rays with atomic nuclei in the Earth's atmosphere. In low energy neutrino experiments they mainly considered as a background for studied processes. For atmospheric neutrinos in energy range below 1 GeV we present semi-analytical expected yield for four neutrino detection reactions: νp-ES, νe-ES, inverse β-decay and 12C(ν, ν′)12C*(15.1 MeV), as well as results of Monte-Carlo simulation for other ν12C interaction channels. Calculations are made for several neutrino experiments and include neutrino oscillation averaged over neutrino arrival directions.

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