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Corsika simulations of background in Baikal experiment

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The Baikal experiment was proposed to register cosmological neutrinos and map the high-energy neutrino sky in the Southern Hemisphere. It will use a km³-scale high-energy neutrino telescope in Lake Baikal. The selection of events from neutrino induced upward going muons, suggests a fairly reliable estimation of the expected background from atmospheric muons. The procedure for simulating background events from atmospheric muons in an array is performed in several steps. The CORSIKA7.64 was used to simulate the flux of atmospheric muons at sea level with appropriate chemical composition of the primary cosmic rays. The muon propagation through water and rock to the array level was then simulated with the MUM code. As the last step of simulation chain simulation of the detector response to the Cherenkov radiation of muons by taking into account the features of array measuring systems was performed. The main features of the CORSIKA Monte Carlo code and following steps of the full simulation chain will be briefly reported.

Summary

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