



Contribution ID : 922

Type : Oral talk

## RADIOCARBON C-14 PRODUCTION UNDER CONDITION OF ATMOSPHERIC FLASHES

Thursday, 8 October 2020 17:35 (15)

The phenomenon of flashes in the atmosphere is precessed by fast multiplication of electron avalanche in electric fields of about  $\sim 300$  kV/m [1]. Strong increase of number of relativistic electrons ensures an energetic terrestrial gamma-ray bursts (bremsstrahlung photons created at slowing down of relativistic electrons), that leds to (g,n)-reactions on atmospheric isotopes: so, the cross section  $^{14}\text{N}(g,n)^{13}\text{N}$  (with Ethreshold  $\sim 10.6$  MeV) – within the interval (1-10) mb for  $E_g = 20-60$  MeV. By-turn neutron flux leads to generation of radiocarbon  $^{14}\text{N}(n,p)^{14}\text{C}$ ,  $^{40}\text{Ar}(n,g)^{41}\text{Ar}$ ,  $^{14}\text{N}(n,\alpha)^{11}\text{B}$ ,  $^{14}\text{N}(n,g)^{15}\text{N}$  and another reactions [2, 3]. Here we evaluate creation of  $^{14}\text{C}$  (exclusively important for radiochronology) the under conditions of terrestrial flashes. The simulation were realized at the several altitudes: 1, 3, 5, 7 and 10 km. Change of atmospheric density was taken into calculation. We propose the top level of  $^{14}\text{C}$  production in the atmospheric flashes as  $\sim 2$  moles per year. This evaluation is connected only with flashes in the lower part of the atmosphere at the altitudes up to  $\sim 15$  km. At the same assumption it was obtained the rate of radioactive  $^{41}\text{Ar}$  production as  $\sim 4E-3$  moles per year. We propose to use creation of  $^{41}\text{Ar}$  under condition of terrestrial flashes as sensitive tracer of radiocarbon production under thunderstorms. The control engineering of radioactive  $^{41}\text{Ar}$  is well known and continually fixed at accelerator work.

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**Session Classification** : Nuclear physics

**Track Classification** : Nuclear physics