Abstract number: S2-472
2. CRs at Earth and planets (GEO)

Gamma-ray increase, atmosphere conditions and secondary cosmic rays

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Based on many years database accumulated on Apatity cosmic ray station, which has hundreds events of increasing gamma background in the surface layer of the atmosphere, a study of possible correlations between increases and conditions of a ground atmospheric layer was carried out. The vast majority of these events is accompanied by rainfall and cloud cover. This conclusion was before based on subjective assessments of weather, now it is proved by real observations. About a dozen parameters determining conditions of the low atmosphere, which could be important factors affecting the increases, are used. Increases usually occur at low nimbostratus clouds. For the increases are also characteristic calm weather with rain and low clouds. Storms, blizzards, and drizzle are not accompanied by an increase of gamma background. There is a time gap between maxima rain intensity and gamma-ray increase. Any other secondary cosmic rays dont -ray show significant relation between its fluxes and atmosphere condition excepting pressure.