

**NITRATE ABUNDANCE IN POLAR SNOW DURING LAST 50 YEARS:
CONNECTION TO ATMOSPHERIC IONIZATION**

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A few yearly series of the nitrate abundance in polar snow are studied. One of them has been measured in the snow samples collected in a pit dug at Russian Vostok Station (East Antarctic). The other series has been obtained in Antarctic and Greenland. The studied time interval covers the last 50 years. These series are influenced by different local terrestrial drivers while the extra-terrestrial force is similar. The nitrate series are analysed along with calculations of the cosmic ray induced ionisation of the upper atmosphere. A relative role of extra-terrestrial factors, in particular of strong solar proton events, is discussed.