



## **Annual distributions of magnetically disturbed cloudless days and nights in Abastumani (41.75°N, 42.82°E)**

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We analyzed annual distributions of the monthly mean values of the planetary geomagnetic  $A_p$  index calculated for visually cloudless days and nights at the Abastumani Astrophysical Observatory (41.75°N, 42.82°E) in 1957-1993. Cloudless days were taken from day-time observations of the total ozone content and cloudless nights when night-time measurements of the mesosphere-thermosphere nightglow intensity took place. Both series of observations had been carried out during the referred time period almost uninterruptedly. The distribution of the long-term monthly mean  $A_p$  values on cloudless days shows a semi-annual variation with maxima on the equinoctial months (March and September), while on cloudless nights it exhibits a seasonal-like character. Annual distributions of long-term monthly numbers of cloudless days and that of cloudless nights are modulated by these semi-annual and seasonal-like variations of the  $A_p$ . The lowest monthly mean  $A_p$  value for cloudless days and its highest value for cloudless nights fall on June. We also considered similar to above distributions when sudden storm commencements took place and found different picture for days and nights. The different characters of distributions of the magnetically disturbed days and nights can be considered as a manifestation of the influence of space weather and cosmic factors on the regional and global climate.