

On activity periods of the April Lyrids

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Abstract

The activity of the Lyrid meteor shower is analyzed by visual observations in the interval 1900-2007. Processing of observations over a long time interval confirmed the presence of two periods of activity of the shower, of 12 and 60 years. These periods almost coincide with the period and five times Jupiter's orbital period, i. e., 11. 8 and 59. 3 years, respectively, suggesting the possible influence of Jupiter on the shower structure. High activity of the shower is observed when the epoch of observations and the commensurate moment coincide with the orbital period of Jupiter and can be registered in the next 1-2 years. The increased activity of Lyrid by visual observations suggests that ZHR exceeds 30 meteors per hour. The modeling of activity profiles of showers for different minimum masses of meteoroids has shown that there is a correlation between the longitude of the node from the orbit with the mass of particles. © 2011 Pleiades Publishing, Ltd.

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