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Effect of low-frequency and midrange variations f the Earth's angular velocity on its seismic activity

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We used observational data on variations in Earth's angular velocity duration of 296 years for the semi-annual time series of observations and seismic observations c 1720 to 2016. It was determined the value of the relative angular velocity of the Earth's rotation (v). Then by using band-pass filters were isolated the low-frequency (Vn) and midrange (Vm) components from the v values (for the periods 124-19 years and 1.2 years-5 months accordingly). The analysis of the Vn value [Levin, Sasorova, 2015] shows, that the reduction of the angular velocity (deceleration) is accompanied by an increase in density of seismic events. The local minimums of the Vn value coincide with maximums of seismic activity. On the contrary the increase of the angular velocity (acceleration) accompanied by a decrease in the density of events. The angular speed of the Earth's rotation around its axis during the year varies, it determined by the values of Vm. Accelerated movement observed in the summer (June-July-August), braking - in the winter (October-November-December).
Recently it was shown [Sasorova, Zhuravlev, 2006], that the irregularity in the distribution of seismic events during the year observed for several regions of the Pacific. This irregularity is statistically significant. The maximum of the seismic activity manifested mainly in the winter months (November - February). In this work it is shown that the within-year periodicity appears unstable, greatly amplified in some years and almost disappearing in others. A comparative analysis of the Vn values and the two-dimensional distributions of the seismic event density on the annual and monthly scale were carried out. As a result, it was noted that the within-year irregularity manifested mainly on the Earth's braking stages, and do not observed virtually at stages of acceleration. It should be noted that the Vn values vary from 3 to 5 (in relative units), and Vm from +0.8 to -1 (the difference is more than 4 times). Thus effect of the low frequency component is dominant.
Analysis of the distributions of the total density of seismic events for the four three-month intervals (May-June-July and August-September-October, November-December-January, February-March-April) shows that the highest density of the EQ in these periods is in November-December- January, and the other a local extremum (not as sharp) falls in May-June-July. Similar properties characterized by: for global events, for events for the Northern hemisphere and for the Southern hemisphere, for specific latitudinal belts (90°N-30°N , 30°N-0°N, 0°S-30°S, 30°S-90°S), and for regional events. The probability that such distributions may happen randomly from a uniform distribution of monthly events of the year does not exceed 0.1
The decrease in the rotational velocity on the low-frequency component (Vn) creates the preconditions for the manifestation of the response of seismic activity on annual components of the v values. It should be noted that, the Earth's entry into a new stage of braking in the end of 2014 according to low-frequency component of v caused a marked increase in seismic activity in the last months of 2016.