



## The geoelectric activity index T: five decades of observation at Nagycenk, Hungary

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The Nagycenk Observatory (IAGA code: NCK,  $L = 1.9$ ,  $\hat{E} = 47^{\circ}38'$ ,  $\hat{I} = 16^{\circ}43'$ , altitude = 153.70 m) has been providing for the past 50 years a special activity index called T, hand-scaled from continuous telluric (geoelectric) recording. The telluric field is generated by the time variation of the geomagnetic field ( $\text{curl } E = -\frac{d\vec{B}}{dt}$ ), therefore T characterises the higher frequencies in comparison with the magnetic range indices. The high time resolution Earth current measurements started in 1957 at the Nagycenk Geophysical Observatory. The 3 hour T index is scaled from 0 to 9 characterizing the geoelectric activity during 3 hour intervals corresponding to the largest range covered by the variation of  $E_x$  and  $E_y$ . The (daily) T index is the sum of the corresponding three hour T index values. The daily variations were eliminated from the T indices for the whole available time period. The 3-hour interval proved to be adequate to indicate any geomagnetic transient event and to provide a suitable time resolution as well. It became evident that the T index determined from records at NCK is minimally distorted and it can be regarded as a valuable and representative indicator of geomagnetic induction. Since the available data of geoelectric activity covers five decades, this data can be used to analyze even long-term variations of the Earth's geomagnetic field.