



## **Testing an interactive computer method for producing K indices with the data of Hurbanovo and Budkov magnetic observatories**

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It is generally accepted that the geomagnetic K indices derived by experienced observers are of great value. An interactive method based on the traditional hand-scaling methodology is tested in this study. The tests are performed employing the data of Hurbanovo and Budkov magnetic observatories. These data included both digital records of the geomagnetic field and hand-scaled K indices that had been derived by experienced observers. The data of Hurbanovo covered the year 1997 and the data of Budkov consisted of years from 1994 to 1999. The results of this study indicated that for the cases of high values of K indices (the values being at least 5) the tested method follows the traditional hand-scaling better than the widely used computer methods FMI and AS. On the other hand, for the K indices that were less than 5 the tested method turned out to be the worst when compared with the FMI and AS methods. For very low geomagnetic activity (K-index values equal to 0) the performance of the tested method was comparable with the two computer methods. In order to achieve optimal performance in all ranges of the K-index values, the interactive method is proposed to be combined with the FMI method. As the K indices in the tests contained no values 8 or 9, the conclusions of this study are restricted to the K indices of less than 8.