

## **DEVELOPMENT OF LOCAL MAGNETIC INDICES FROM GLOBAL MAGNETIC INDICES USING NEURAL NETWORKS: AN APPLICATION TO ANTARCTICA**

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This paper describes a new method to obtain the local magnetic index, K, from a global index, Kp, experienced at any location in a wide area having or not a magnetic observatory in the vicinity. The motivation for this work arises from the need to produce accurate data for the predictive Space Weather models. Many models work with global indices as drivers, but if specific regions as some parts of the ionosphere have to be studied, the local indices are more appropriate. However, until now, in the case of not having magnetic observatories in this area, global indices were the only option. The methodology that we used is based on neural networks, and we demonstrated that this method was effective to obtain the local K-index. This tool has a great potential to process information from rather complex systems as the geomagnetic one.

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