A portable geomagnetic observatory to improve the distribution of global field measurements

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A b s t r a c t: This paper describes the provision of accurate measurements of the geomagnetic field from locations worldwide through the use of a temporary portable geomagnetic observatory for magnetic surveys. The observatory instrumentation, installation, measurement procedure and data reduction are described, highlighting the primary importance placed on the optimum accuracy of the data. The observatory is designed so that it is operational in all weather conditions, easily transportable and provides continuous data for at least 5 days. The objective is to fill in gaps in the global network of observatories in remote locations around the world particularly in areas where there is a lack of accurate geomagnetic data. Data provided in this way will greatly assist global geomagnetic modelling, and by repeat visits, secular variation modelling. Examples of locations where the observatory may be deployed are described. The portable observatory is a financially and logistically viable solution for the provision of periodic geomagnetic data from remote areas.

Key words: portable geomagnetic observatory, global network

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