

Study of baseline values over long-time period at Chambon la Forêt observatory

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A b s t r a c t: This paper presents the baseline values for the Chambon la Forêt fluxgate variometers from 1985 up to 1999. Over this time-span absolute measurements have been done using the same French DI-flux and an unchanging procedure. The H, D and Z field components are recorded every minute by three different fluxgate variometer systems and the total field is measured by two Overhauser proton magnetometers; all these instruments are installed in the vault.

The observed variations of the baselines of the fluxgate variometers are analysed in order to evaluate the effects due to seasonal temperature changes, pillar tilt, and observed variations of field differences between the reference pillar and the variometer vault. Considering the above effects, we have estimated the long-term stability for each fluxgate variometer system used at Chambon la Forêt observatory.

Key words: fluxgate variometer, absolute measurements, baseline variations, long-term stability

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