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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Long-term magnetic anomalies and its possible relationship to the latest Greater Chilean earthquakes in the context of the seismo-electromagnetic theory" *by* Enrique Guillermo Cordaro et al.

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We are pleased that the Reviewer considers that the paper is well written and the results are coherent. Bellow we will be commented point by point the remarks.

In the new version of the manuscript we have explained in more detail our Wavelet analysis as well as the treatment of the signal regarding filtering before to apply the Fourier and Wavelet analysis. Also, we have included the references that the Reviewer was commented. Indeed, we consider that the analysis on of Telesca et al. (2007)

is a powerful tool to be implemented for our experimental data, and for sure can be analyzed in more detail. However, it is beyond the scope of the manuscript and we will treat future works.

Thank you for the CWT remarks. In the new version of the manuscript we have added the requested scalograms in the new Figure 5 (as it is shown in suplements) for the vertical components at OSO-Maule, Pil-Iquique and PIL-Illapel. Also, we consider that the spectrogram can also give information, especially, when four filters have been used in order to obtain a candidate lithospheric magnetic variation before perform spectral analysis. That is, almost free-external disturbed data. We will explain these filters in details in methods. Then, we have also kept spectrograms. We have discussed in more detail about the methodology.

Sincerely yours,

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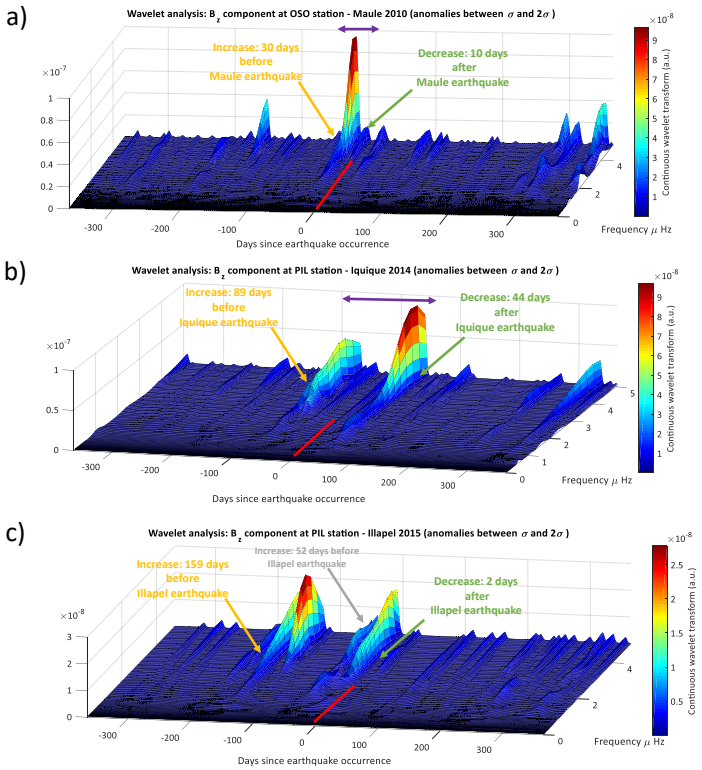
a)
Wavelet analysis: B z component at OSO station - Maule 2010 (anomalies between σ and 2σ)
Increase: 30 days before Maule earthquake
Decrease: 10 days after Maule earthquake
Days since earthquake occurrence
Frequency μ Hz
Continuous wavelet transform (a.u.)
b)
Wavelet analysis: B z component at PIL station - Iquique 2014 (anomalies between σ and 2σ)
Increase: 89 days before Iquique earthquake
Decrease: 44 days after Iquique earthquake
Days since earthquake occurrence
Frequency μ Hz
Continuous wavelet transform (a.u.)
c)
Wavelet analysis: B z component at PIL station - Illapel 2015 (anomalies between σ and 2σ)
Increase: 159 days before Illapel earthquake
Increase: 52 days before Illapel earthquake
Decrease: 2 days after Illapel earthquake
Days since earthquake occurrence
Frequency μ Hz
Continuous wavelet transform (a.u.)

Fig. 1.