

# ***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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Dear referee #3

Thank you very much for your thoughts. We have focused on the spectrogram analysis because it is the method which we have used in the past (e.g., Cordaro et al., 2019). There we found peaks for the frequencies 4.747  $\mu\text{Hz}$ , 5.064  $\mu\text{Hz}$  and 5.154  $\mu\text{Hz}$  in the magnetic measurements of the Maule 2010 earthquake when the mobile-Fast Fourier Transform was applied. In that paper the results were showed in a 3D graph for Date,

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Frequency and Fourier Power Intensity. This early frequency analysis shown its highest intensity in the January 17th, 2010 range, which is 41 days earlier than the February 27th, 2010 Maule earthquake which is not obvious to observe in a 2-D representation. That is why think that the 3D presentation in Fig 5 or 6 is comparable to prior research. Then, it is also helpful for readers since it is a quite evident the increases before and the decrease after main event by following the abovementioned research line.

There are other minor differences between of methods used is presents in the 5-point summary below:

1.- Fourier transform is used because little information is lost from the signal. 2.- Wavelet analysis has more time and frequency resolution. Nevertheless, high resolution in time and frequency is not needed owe data has gaps after the filter process which could generate much more relevant artifacts. 3.- Spectrograms are used because it allows to see the temporal evolution of the main spectrum. 4.- We use spectrograms with a high degree of overlap since that is the methodology we have used in the past (e.g., Cordaro et al 2018). 5.- The 3d representation is comparable to that used in previous works.

Best regards,

E.C.C. – On behalf of the autors

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