

Supplementary Material

Forearc density structure of the overriding plate in the northern area of the giant 1960 Valdivia earthquake.

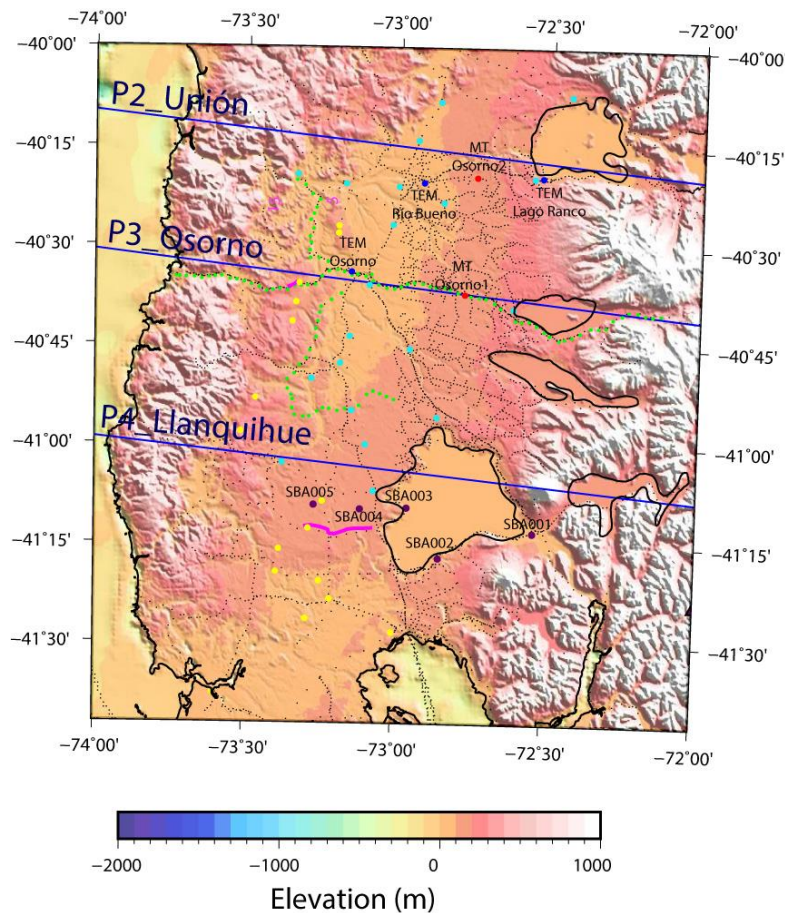
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10 1 Location of Electromagnetic soundings



15 **Figure S1: Location of MT and TEM data in the study zone. The blue and red dots correspond to TEM soundings and MT stations acquired under the aforementioned FONDECYT project. Magenta dots indicate the MT stations presented by Segovia et al. (2021) and cyan dots correspond to TEM soundings published by DGA (2012). The blue lines indicate the location of regional density model. The black dots designate gravity stations compiled by Schmidt and Götze (2006), onshore, and in GEODAS database (NOAA) offshore. The green dots illustrate the complementary gravity stations acquired by our group under the ANID-FONDECYT project N°11170047. Seismic reflection lines presented by Jordan et al. (2001) indicated with magenta lines. The yellow dots correspond to the location of boreholes (McDonough et al., 1997).**

20 **2 Magnetotelluric Models**

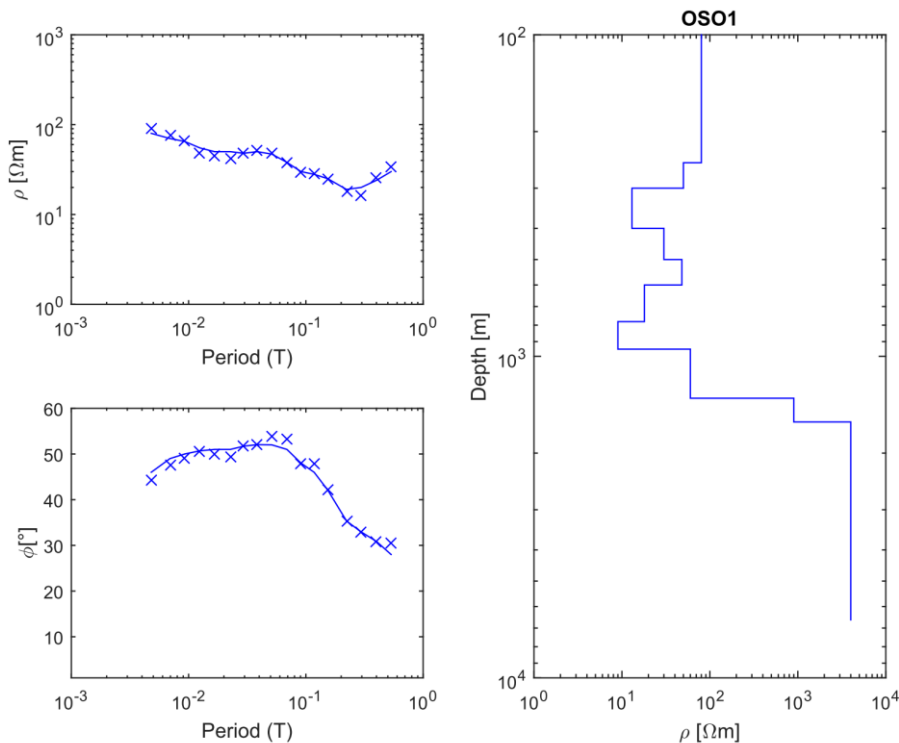


Figure S2: MT data (crosses) and corresponding 1D resistivity depth model (blue lines) at station Osorno 1.

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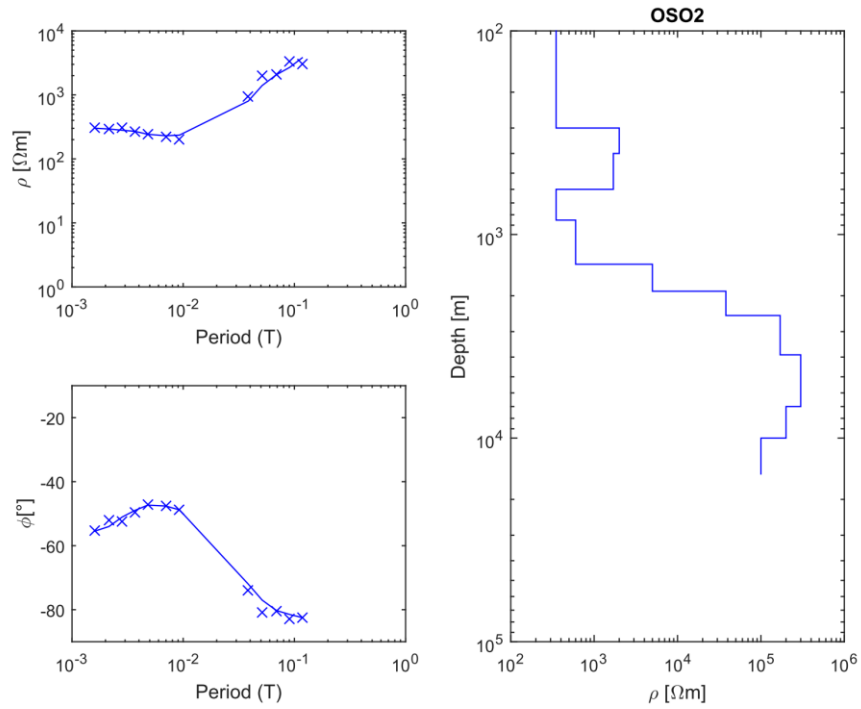
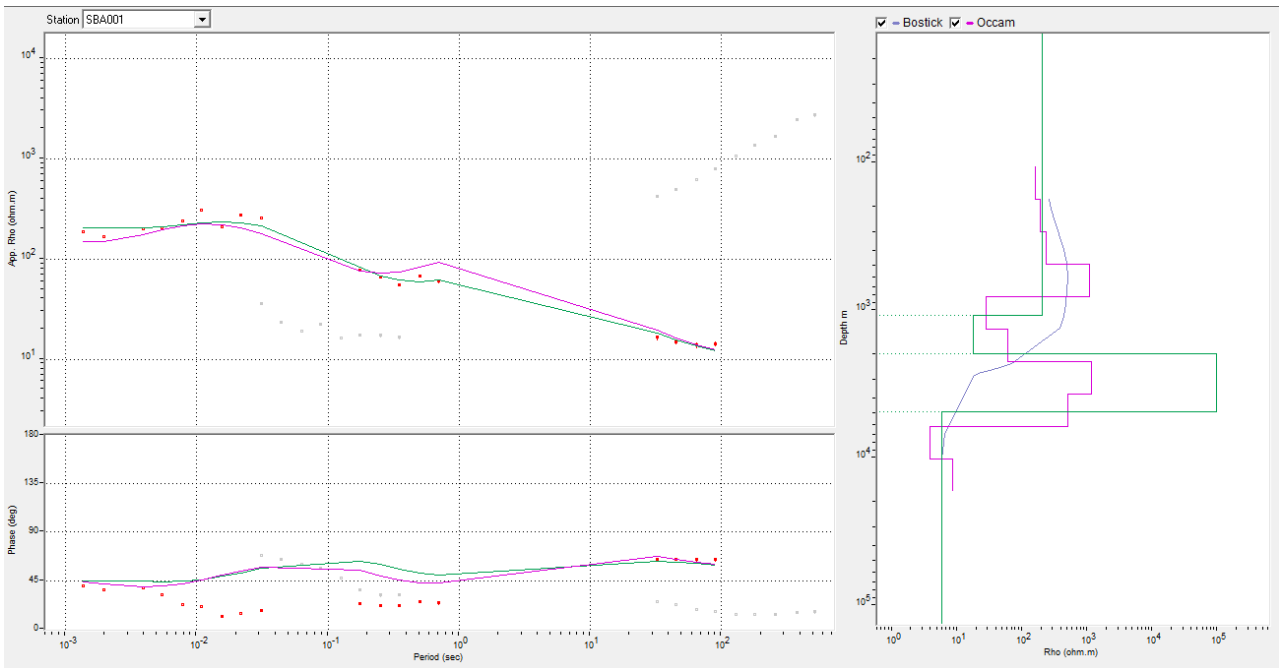


Figure S2: MT data (crosses) and corresponding 1D resistivity depth model (blue lines) at station Osorno 2.



35 **Figure S4: MT data (red dots) and corresponding 1D resistivity depth model (lines) at station SBA001.**

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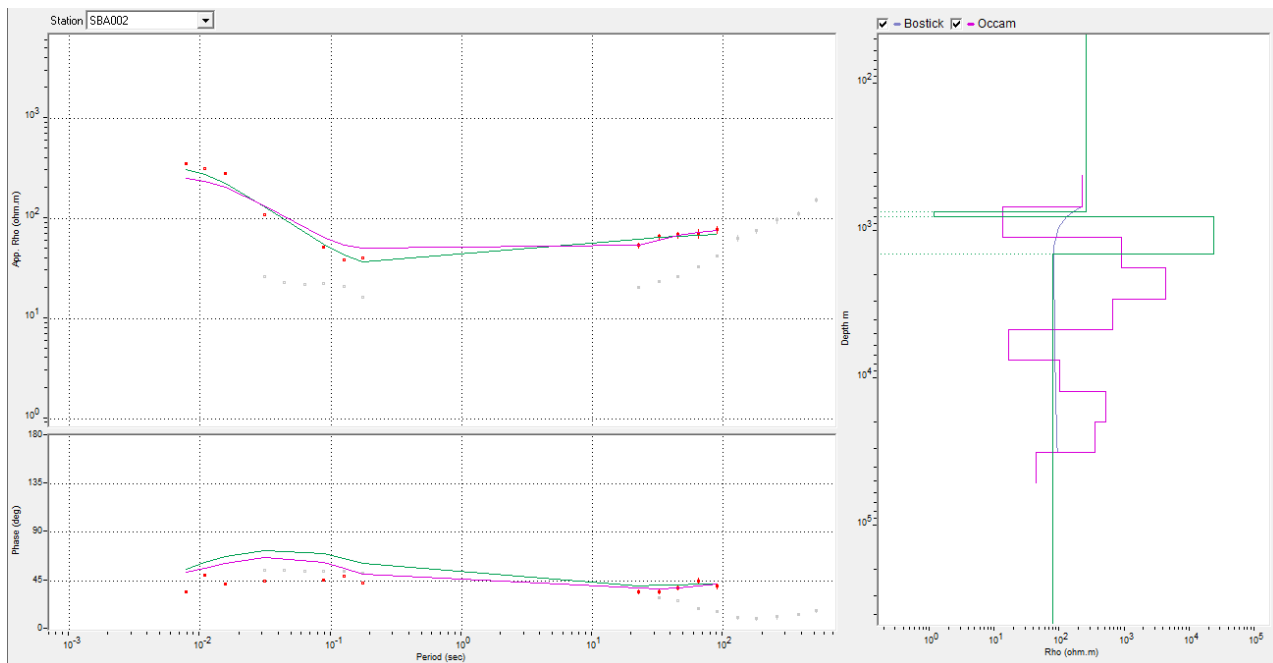
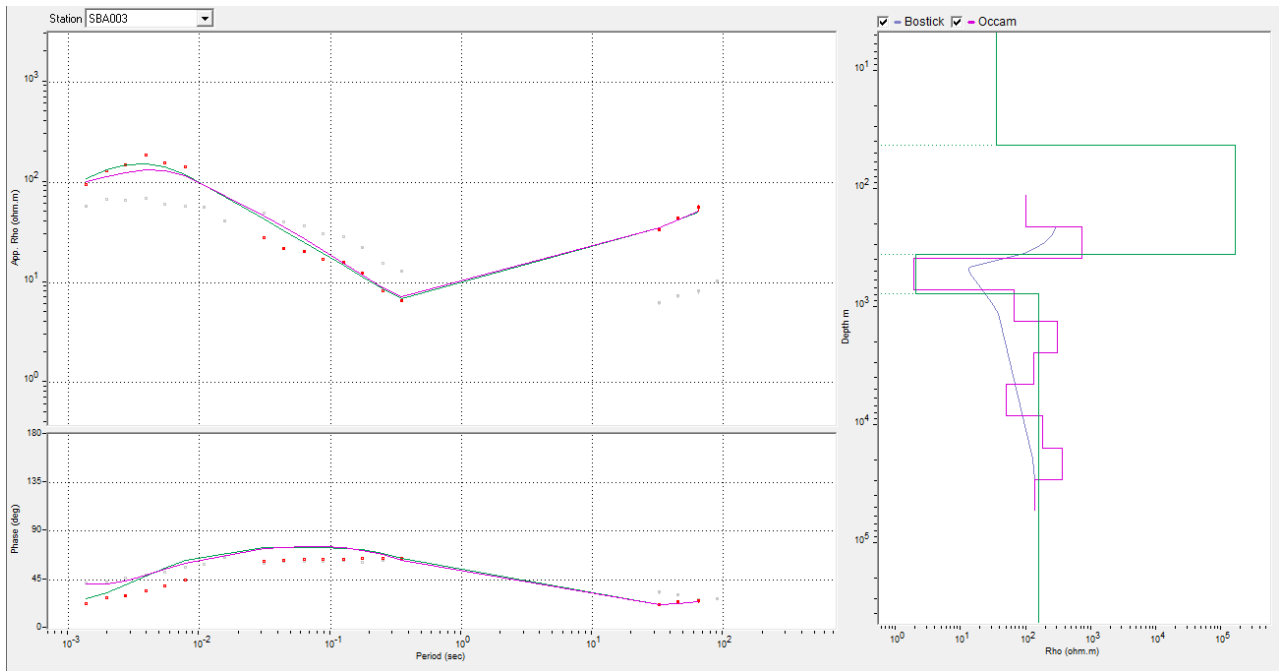


Figure S5: MT data (red dots) and corresponding 1D resistivity depth model (lines) at station SBA002.

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50 **Figure S6: MT data (red dots) and corresponding 1D resistivity depth model (lines) at station SBA003.**

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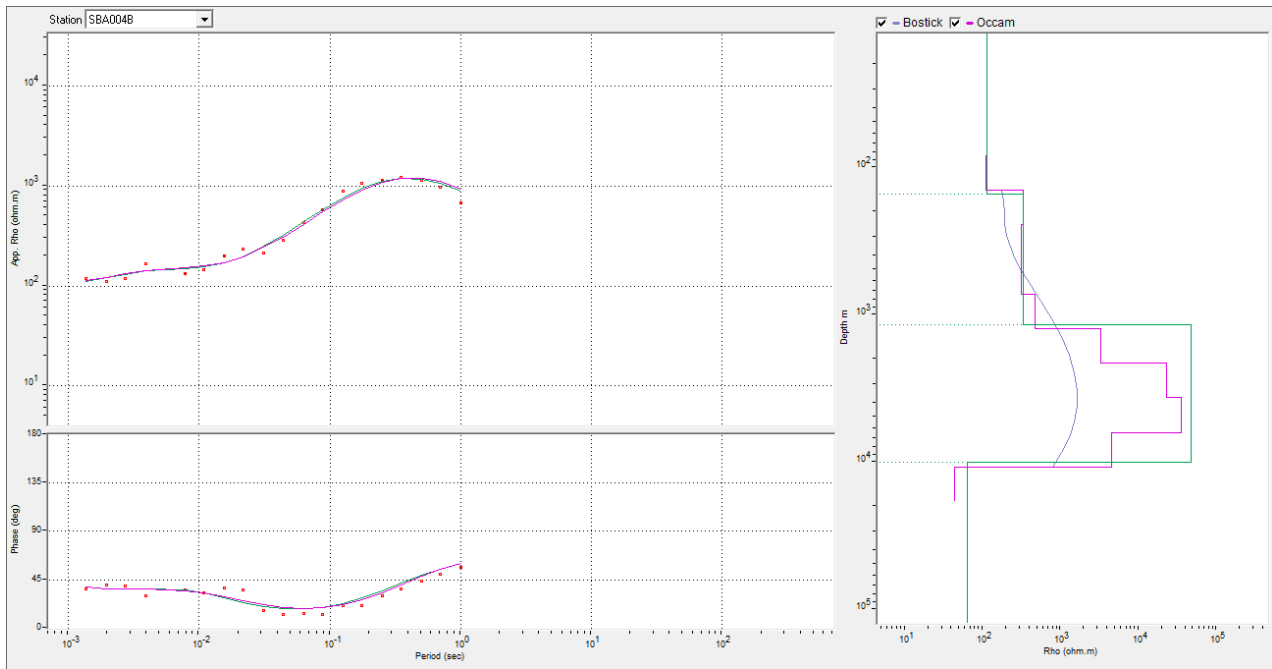
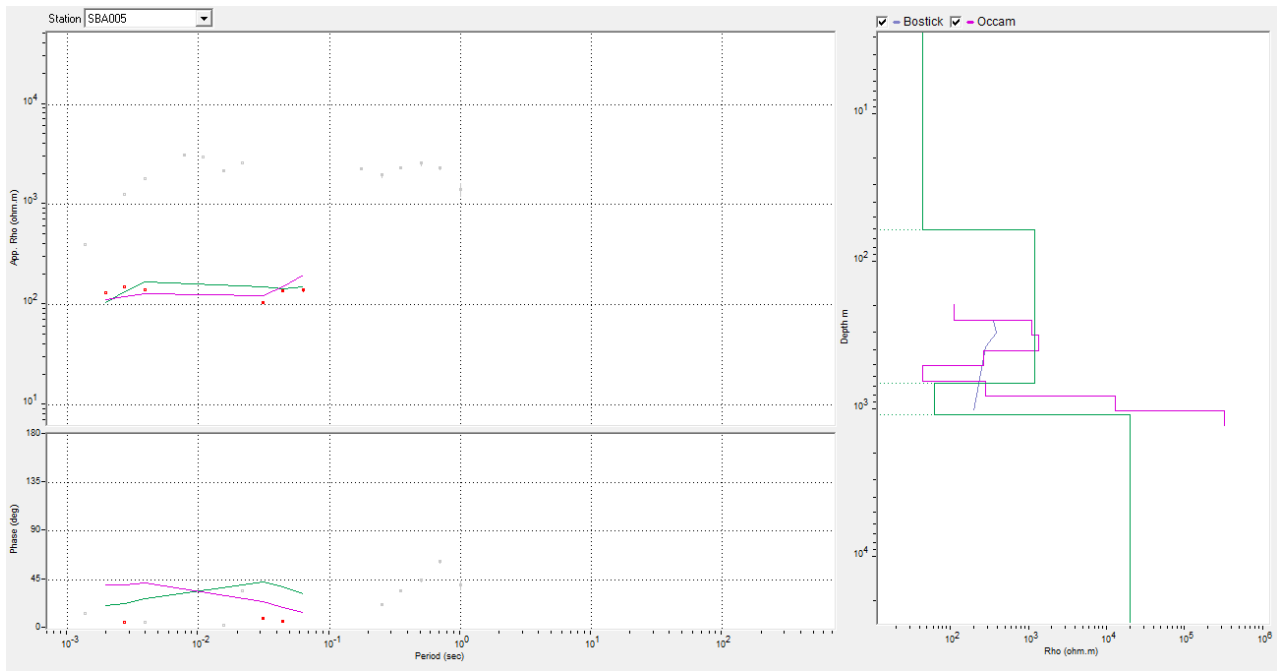


Figure S7: MT data (red dots) and corresponding 1D resistivity depth model (lines) at station SBA004.

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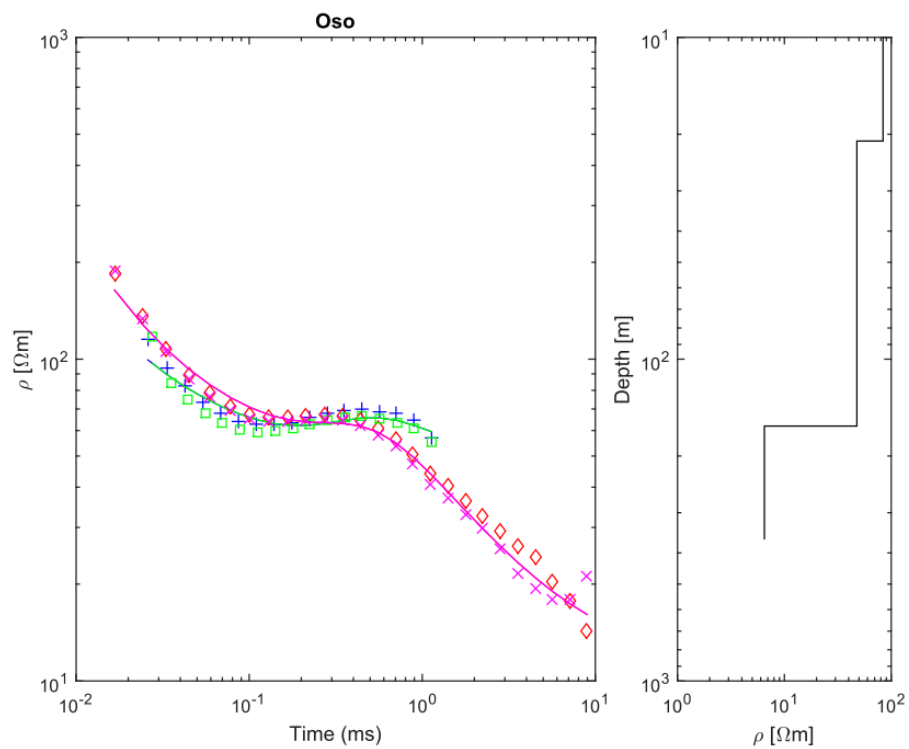
65 **Figure S8: MT data (red dots) and corresponding 1D resistivity depth model (lines) at station SBA005.**

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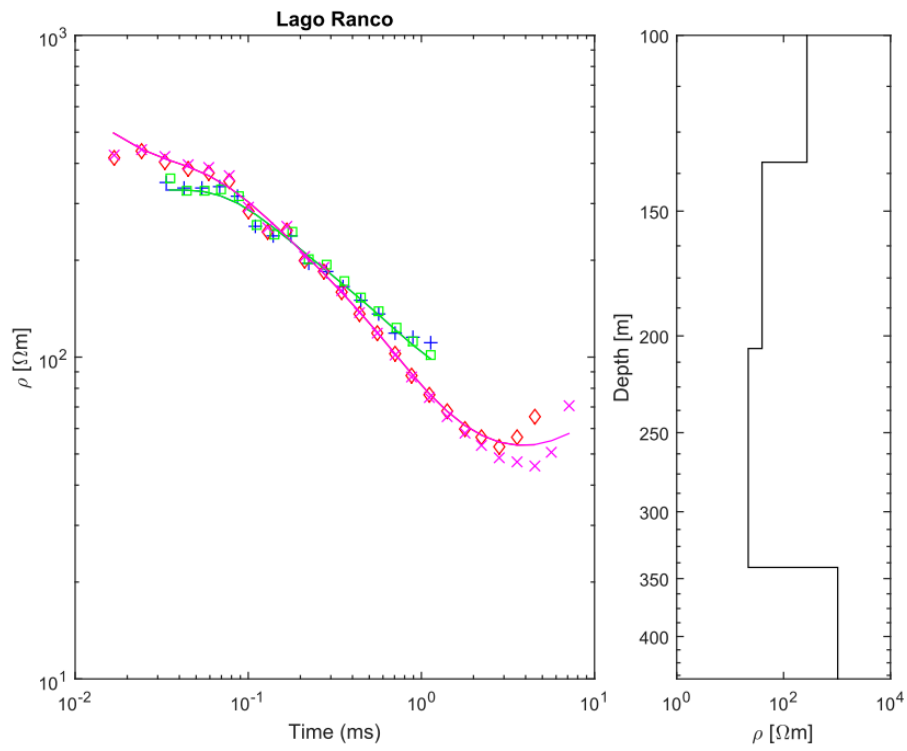
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3 Transient electromagnetics models



85 **Figure S9: TEM data (symbols) and corresponding 1D resistivity depth model (lines) at station TEM Osorno.**



90 **Figure S10: TEM data (symbols) and corresponding 1D resistivity depth model (lines) at station TEM Lago Ranco.**

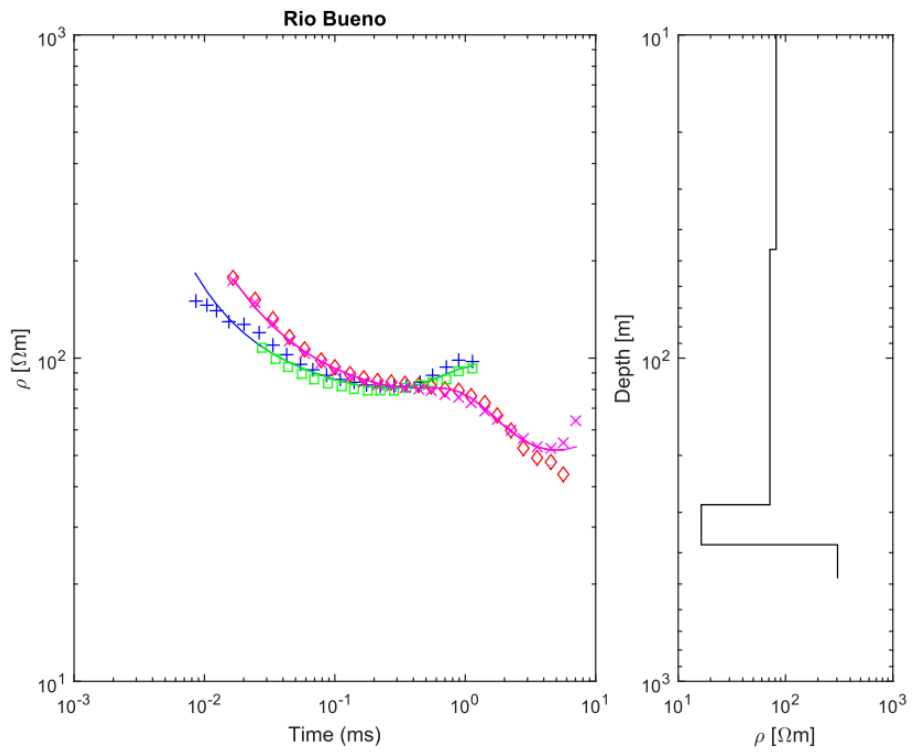


Figure S12: TEM data (symbols) and corresponding 1D resistivity depth model (lines) at station TEM Rio Bueno.