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Interactive comment on "Fault evolution in the Potiguar rift termination, Equatorial margin of Brazil" *by* D. L. de Castro and F. H. R. Bezerra

Anonymous Referee #1

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The manuscript new geophysical data (gravity, magnetics and geo-electrics) on the SW termination of the Potiguar basin, one of the basins associated with the development of the Equatorial Atlantic margin of N Brazil. The data are clearly presented and interpreted with the goal of defining the (extensional) geometries at the termination of the rift structure. The question addressed is of great importance and has consequences on the way we interpret the geological record preserved. In the case of the Brazilian margin, information on the termination of the Potiguar basin is important for a correct understanding of its relations with the continental margin. In my view, the data is nicely presented and seems to be of good quality. The processing of the data and the first order interpretation are, as far as I can judge, correct and can be easily followed. More problematic is the translation of the geophysical images in geological section. The geophysical tools used provide only best fit profiles which are considered representative

of the geological architecture of the subsurface. This step is less convincing than the purely geophysical ones, probably something inherent in the nature of the methods. For instance, the interpretations of figures 7 and following (half-grabens, position of Master faults etc) leaves more room to interpretation than the authors mention.

In any case a relevant and important data set

Please also note the supplement to this comment:
http://www.solid-earth-discuss.net/6/C1231/2014/sed-6-C1231-2014-supplement.pdf

Interactive comment on Solid Earth Discuss., 6, 2885, 2014.