



EGUsphere, referee comment RC2
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Comment on egusphere-2022-29

Ugo Nanni (Referee)

Referee comment on "Cryo-seismicity triggered by ice mass discharge through the Antarctic subglacial hydrographic network" by Stefania Danesi et al., EGU Sphere, <https://doi.org/10.5194/egusphere-2022-29-RC2>, 2022

The study by Danesi et al., present a new analysis of an extensive seismic dataset obtained in Antarctica. The methods is very well described an very clear, and the results are coherent and well discussed. They present a new catalogue of seismic events that they compare with environmental variables and glacier dynamics. They show that the main clusters dynamic is mainly linked to glacier dynamics, and discuss the implication of understadong subglacial condition.

I find this study very informative, but I have a difficult time to see (especially in the Introduction) the research question or the red thread of this study other that reanalysing this dataset. I would suggest to make the scope of the study a bit more clear in the introduction, as well as its outcomes in the conclusion. I think the purpose of this work could be made more clear.

Have you calculated the events magnitude, it would be interesting to see the values and compare it with other, for instance in the Whillans Ice Plain

How can you discriminate that the events you observe are basal events? It would be nice to have a bit more details on what can of seismicity you are observing.

Here are some minor comments:

L 68: what do you mean by extrem scenarios?

L132: do you mean earthquakes or icequakes?

L147: is it manual of automatic location?

L227-229: could you describe a bit more how the reader should read the figure 8, the wavelet analysis is not that common

Fig 9 is a bit difficult to read, maybe splitting it would help.

Best,

Ugo