

Interactive comment on “Seismological assessment of human activity levels during the COVID-19 pandemic” by Jeongin Lee and Tae-Kyung Hong

Anonymous Referee #2

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The manuscript looks at the variation of high-frequency seismic noise levels at 11 seismic stations in 7 countries following the implementation of COVID-19 lockdown measures. Those observations are compared with the respective Google community mobility data and daily confirmed infection cases for the corresponding country.

The quality of English is severely lacking throughout the manuscript to the point that it occasionally becomes hard to understand (e.g. “Fluid population” - line 33, “Thus, seismic noises may be useful to treat the personal identity anonymously for assessment of human activities.” - line 52).

The scope of the manuscript is very general and not sufficiently defined. Although the

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title indicates an interest in studying human activity with seismic noise, the manuscript loosely addresses lockdowns, social distancing, confirmed infection cases, and ambient noise without comprehensively laying out the relationship between them.

The issue is illustrated at line 167: “The observation suggests that the social distancing has the reserve time of two weeks to one month to be effective for reducing the daily confirmed cases.” It is not clearly explained (and unlikely) how such information comes out of observations of seismic noise variations. Such statements could indicate an intention to analyze the effectiveness of lockdown measures on the number of reported cases, which is not accomplished in this manuscript.

More problematic, the content of the manuscript echoes previous publications such as Lecocq et al. 2020 and Xiao et al. 2020 without offering further substantial contribution. For example, Chinese stations in Line 124 - 135 were already analyzed with more perspective on the impact of the Chinese new-year on the noise for the previous years.

From a more general standpoint, no background is given on the seismic stations; what type of site are they installed in, is it an urban or rural context, who operates them, etc. This latter point is also problematic as the data providers/networks are not credited at all although they should be even if the data is openly accessible.

As it stands, the manuscript is not suitable for publication and very unlikely to reach satisfying standards with significant corrections. It should therefore be rejected. I recommend the authors to substantially revisit the research from the beginning and to consider a specific scope, making sure that a potential future new manuscript would contain original content with a significant contribution. I also encourage them to have any future submissions carefully reviewed by a native English speaker before submission.

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