Comment on essd-2021-349
Anonymous Referee #1

Referee comment on "Moment tensor catalogue of microearthquakes in West Bohemia from 2008 to 2018" by Václav Vavryčuk et al., Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2021-349-RC1, 2021

General comments

The data presented here form a unique possibility to study a tectonically complex region of seismic swarm activity connected to crustal fluid flow on a local scale. Possible topics of further studies making use of this comprehensive set of moment tensors are manifold and will not only serve seismology but also neighbouring fields and interdisciplinary studies.

Specific comments

- To abstract: It would be helpful to name the magnitude range of the events included in the catalogue. Terms such as “microearthquakes” are not strictly defined. The same holds for the paragraph beginning at line 46.
- At line 76: “... microearthquakes rarely exceed a value of 4 ...” Well, though, there is no clear definition of terms such as microearthquake, at least, there is a guideline once published by USGS: https://www.gns.cri.nz/Home/Learning/Science-Topics/Earthquakes/Monitoring-Earthquakes/Other-earthquake-questions/What-is-the-Richter-Magnitude-Scale (cannot find the original USGS source now) If M≤4 is the magnitude range the authors are talking about I suggest to skip the term “micro” entirely or change it to “minor earthquakes”.
- To abstract: It would also be helpful to get a brief information how these moment tensors were determined (method).
- Line 31: I would rather write “It can be separated into ...” instead of “It is formed by ...” because there are also other possibilities to decompose a moment tensor.
- Line 127: I would say “... with a minor azimuthal gap of X degree to the south.” (At least, this is my impression from Fig. 1.)
- If someone want to make use of these data repository the provided station information are not sufficient. It needs the exact date when hardware was changes, not only the year. Also, information for instrument correction are missing. XML file format is good, modern standard.
- Line 287/288: I do not understand the message of this sentence.
- 290/291: Correct! But a short reasoning why this is the case would be helpful for those
who are not familiar with the topic.

- To the waveforms provided: They are provided in ascii format (four columns of time and three components of data for each event and station) and referenced/sorted according an event identification system provided in the file catalogue_2008-2018.dat along with basic catalogue information (date, time, location). That is clearly arranged and relatively easy to use. However, I am wondering if there are plans to integrate the data into international data centers such as EIDA within the EPOS Data Portal. That would guarantee an even wider visibility of the data.

Technical corrections

- The red dots in Fig. 1b are hard to see. Maybe try a different colour?
- Line 125: “... is operating ...“
- Line 148: “The most intense periods of seismicity are ...“
- Line 297: “Into a set of the so called ...“
- Line 468: I think the “range” is mixed up here. Text states it goes from 25% to 25%.