Hydrol. Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/hess-2017-654-RC3, 2017

Hydrology and Earth System Sciences
Discussions
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Interactive comment on "Research on Hydrogeochemical Characteristics and Transformation Relationships between Surface Water and Groundwater in the Weihe River" *by* Jihong Qu et al.

Anonymous Referee #3

Received and published: 27 December 2017

The manuscript on "Research on Hydrogeochemical Characteristics and Transformation Relationships between Surface Water and Groundwater in the Weihe River" by Jihong Qu, et al. is trying to use graphic analysis and multivariate statistical analysis and stable isotopes to analyze the hydrochemical characteristics and the relationships between the river and groundwater in Weihe River. The purpose and the meaning of this study is not well stressed in the ABSTRACT. In addition, the authors need to put the results into a broader context. The data they used are not fully discussed combining the geological and hydrogeological settings of the study area.

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Discussion paper

In my opinion, the pollution in this study area is an aspect that we should pay attention to. But it didn't give any information about the pollutants. Will the pollutants change the hydrochemical contents of the waters?

For the STUDY AREA part, the Figure 1 of the sampling sites is not corresponding to the description, and it is not complimentary to enlighten the readers of the study area. For example, the places Xizhangzhuang village of Xiaohe Town and Dongwangqiao village of Liyang Town of the Line 76 are not showing in the figure. It would be helpful, if the contour of water table could be shown in the Figure 1.

In the DISCUSSION part, the interpretation of presented hydrochemical ions data could be supported with a more detailed description of the hydrological setting and lithology of the aquifer(s). All the discussion of the hydrochemical contents could go deeper if the geological settings were considered.

Generally, the manuscript is carelessly prepared. Text are readable, however, the abbreviations are not explained, and the figures are not well organized. So it is hard to read this manuscript clearly.

In details, what is the reproductivity of the hydrogen and oxygen isotopes? Please point out all Chinese references (in Chinese) for the international readers that do not understand Chinese language. It is hard to tell the difference of the lines in the Figure 7.

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