Review of Zhang et al. manuscript entitled: Effect of precipitation seasonality on annual oxygen isotopic composition in the area of spring persistent rain in southeastern China and its palaeoclimatic implication

This manuscripts assess the effect of seasonal rain amount and isotopic composition variations in the region of a particular spring persistent rain in China and its influence on the understanding of the isotopic variability observed in regional speleothems. I greatly enjoyed reading this excellent paper that provides a clear outline of the research questions in the introduction and answers those through a through compilation of available data and model results and a careful interpretation. The provided material is novel, comprehensive and the discussion is clear and well structured. All arguments made are based on the observations and consequently the interpretations are sound, new, and highly relevant for both the regional water cycle and paleoclimate studies. The article may well be published as it stands, but I propose subsequently some very minor suggestions, which "possibly" further improve the manuscript.

Minor comments:

Key points:

Avoid ACRONYM – for example: * Spring persistent rain region in China reveals isotopic seasonality, which is different from that in other 15 monsoon regions of China.

Abstract:

Line 24 (revise): On interannual timescales, less (more) EASM and more (less) NSM precipitation results in higher (lower) amount-weighted annual precipitation δ18O values. Consequently, higher (lower) speleothems δ18O values occur during El Niño (La Niña) phases. Moreover, moisture sources and pathways may also impact the mean isotopic composition of rain with respect to the amount ratio of EASM/NSM.

Line 82: replace "Some researchers" with "Huang et al. and Wu et al. "…

Line 101: replace "downloaded" by obtained

Line 106: Link to Ferret – reduce to a high level https://ferret.pmel.noaa.gov/Ferret/ as the download link may evolve

Line 115: replace "not used" with excluded

Line 119: replace "isotope-permitting"

Line 127: replace "reliable" with "consistent"

Line 135: reduce link to higher sublevel: http://www.bom.gov.au/climate/current/

Line 153-154: Sentence on data sources seems misplaced here – it should be placed a few sentences earlier.

Line 168: Link to Figure missing and the order of Figures would change as this Figure would have the number 2 instead of 4: "we calculated the contributions of moisture uptake locations en route to the precipitation in GNIP Changsha station and provide a map "(Figure 4)" showing the percentage of moisture uptake contributing to Changsha precipitation during La Niña (1988-1989) and El Niño (1991-1992) years."

Line 273: I would remove the sentence: The effect of the moisture source on the δ18Op variation will be discussed in section 4.1. As the mentioned section is the next paragraph.

Line 281: Proposal to improve sentence: ...can be calculated from the sum of monthly weighted isotopic values divided by the total amount of precipitation as: The equation would look more scientific if a proper Sum symbol would be used with indices n running from 1-12.

Line 316: … showing rather low δ18Op values … I would prefer replacing “rather” with comparable

Line 370: Typo: dring -> during