

## ***Interactive comment on “Glaciochemical investigations on the subterranean ice deposit of Vukušić Ice Cave, Velebit Mountain, Croatia” by Z. Kern et al.***

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Response to Referee1

Thanks for the comments on our manuscript. Below we respond to these comments.

Referee1: About names: names like Vukušić Vukošić Ice cave and Ledena Pit: I think that it would be better to remain with original names Vukošić snježnica, Ledena jama.

Authors: We have never written ‘Vukošić’ in the manuscript. The original name of the cave is Vukušić snježnica. However, we think that it is useful to translate the geographical objects to English otherwise Reader, who cannot speak Croatian, hardly find

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out what kind of landform is it. The English translation would be Vukušić snowcave, however 'snowcave' would be a misleading term as there are only very little snow compared to the volume of ice. We plan (if Editors agree) to give the Croatian name of the caves in the text at the first appearance and to use the translated name after.

Referee1: Page 1564/10: I am more inclined to the idea of dynamic cave since there are entrances in different levels enabling good enough and also necessary cooling for the ice forming.

Authors: We agree with the Referee inasmuch as there is altitude difference between entrances, however this altitude difference is quite small. In addition, the horizontal difference between the entrances is also very small! The critical requisite to classify a cave as 'dynamic' is not the multiple entrances but the change of ventilation direction during the year. Single entrance will almost surely result 'static' regime however multiple entrances will not mean definitely that the regime is dynamic. In the case of Vukušić Ice Cave the wintertime inward air flow must definitely exist otherwise the cavity could not cool down to host ice deposit. However during warm season we have never observed any ventilation and no any other speleologists mentioned it whom we could contacted. This is the reason why we had written in the manuscript that "There have not been available year-round ventilation data yet, however the system is thought to be classified as static cave.." To further clarify this situation we will put in the text that: "Vukušić Ice Cave seems to be static cave because we did not notice any air circulation during our exploration but we can not completely exclude dynamic ventilation."

Referee1: Page 1563/5: Check please reference Mihevc, 2009. It is wrong either the author or the title.

Authors: Unfortunately two references are mixed. We will fix this in the revised manuscript.

Referee1: Page 1568/20: the description of position of the cave against the Zavožan station is ambiguous

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Authors: We will give more detailed description and Fig 1 will also be developed to better illustrate the position of the cave and the meteo station.

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Interactive comment on The Cryosphere Discuss., 4, 1561, 2010.

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4, C1432–C1434, 2010

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