Natural Hazards
and Earth System
Sciences

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Discussions

Interactive comment on "Karst show caves – how DTN technology as used in space assists automatic environmental monitoring and tourist protection – experiment in Postojna cave" *by* F. Gabrovšek et al.

Anonymous Referee #1

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General comments:

This paper describes an ingenious solution to the problem of data communication in a cave system, based on Delay- and Disruption-Tolerant Networking. The experiment is thoughtfully designed and seems to have been well executed. The writing is excellent throughout.

Specific comments:

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In section 2.1 you describe the electric powered train that brings tourists into the cave and additionally functions as a DTN data mule in this experiment. As I was reading this I found myself wondering why the electric circuitry that powered the train could not additionally be used to data data signals, using power line communications technology. I suspect this is an ignorant question for which there is a ready answer, but I might not be the only ignorant reader of this paper; it might be helpful to include the answer here.

The first paragraph of section 5.2 seemed repetitive (see 5326/10 and 5330/10), suggesting that the paper might have been composed in part by cutting and pasting portions of earlier documents. Everybody does that, but it might be worthwhile to scan back through the paper and look for redundant text that could be excised.

In section 5.3, line 19 of page 5339, the administrative bundle that acknowledges delivery of the data sounds like an end-to-end ACK from the destination to the originating node, which does not exist in DTN. You must be referring to a custody signal, which is not necessarily sent to the originating node. I don't know exactly how to clarify this in the text, but it might be good to do so.

The analysis in section 6.1.2 and the description of the discovery algorithm in section 6.3 seem especially useful to me.

In section 7, I wonder if the schedule of train runs is sufficiently rigid to serve as a "contact plan", so that the transmitter could be awakened on a scheduled basis rather than by a beacon signal.

Technical corrections:

Didn't notice any.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 5323, 2013.