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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Technical note: an alternative water vapor sampling technique for stable isotope analysis" *by* César Dionisio Jiménez-Rodríguez et al.

Anonymous Referee #2

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The technical note "An alternative water vapor sampling technique for stable isotope analysis" by Jiménez-Rodriguez et al. presents a method to sample water vapor for posterior analysis with a laser-based isotope analyser. To validate the proposed methodology, the authors present 3 experiments: (i) A laboratory experiment to test response time of the proposed system; (ii) A laboratory experiment to test the consistence of the sampling methodology, and (iii) a field experiment comparing the proposed methodology with the cold trap sampling procedure. Since finding a methodology to sample water vapor for isotope analysis in remote locations is an important challenge, I consider that the contribution is of great interest for the readers of Hydrology and Earth System Sciences. However, in my opinion there are some important aspects that are

not clearly justified, and as a consequence the conclusions are based in weak foundations. In my opinion, the two main important aspects not justified are: 1) The isotopic differences between the lab air, sampled directly, and lab air sampled with the bags are significant. Table 1 presents larger differences between the lab air directly sampled (Laboratory) and sampled with the bags (sample D), than differences between bag sampled laboratory air (sample D) and forest air (sample A). These differences are not explained, nor justified in the manuscript. 2) The field experiment comparing the isotopic composition of the air sampled with the bags and the air sampling with the cold trap method, gives important differences between methods. Then, authors conclude that differences are due to inappropriate results given by the traditional cryogenic collection technique, compared to results given by the method proposed. However, there is not clear justification of this conclusion in the manuscript. In addition, there are several statements that are not clearly justified. (for example: lines 7-8 in page 11; lines 17-19 in page 12; lines 4-5 in page 13; lines 7-10 in page 14). For that reasons, the manuscript cannot be recommended to be published in HESS.

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