Interactive comment on "The new importance measures based on vector projection for multivariate output: application on hydrological model" by L. Xu et al.

Anonymous Referee #2

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General comments:

This paper describes a global sensitivity analysis method, generalized to problems with correlated outputs. Its relevance to HESS is limited to a small section on a simple hydrological model. The rest of the paper reads like a paper in a statistical journal with simple mathematical problems. Even the literature review has hardly anything on the application of sensitivity analysis to hydrological problems. I recommend declining this paper for publication in HESS.

Technical comments:

There are just insufficient materials that are related to hydrology in this paper. The

method is developed in a manner that is independent of any hydrological problem. This paper would have been more relevant if it has been motivated properly based on the hydrological problem described in Section 4.2. After a description of the hydrological problem, the authors should describe how the existing approaches failed to capture accurately the sensitivity of the model parameters. The authors should then elaborate on why their method is better for this particular problem and convincingly demonstrate the superiority of their method. There should also be a discussion on scenarios in which their method may fail.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-259, 2016.