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Interactive comment on "floodX: Urban flash flood experiments monitored with conventional and alternative sensors" *by* Matthew Moy de Vitry et al.

Anonymous Referee #2

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The submitted manuscript presents a data set of a five days experiment conducted on an experimental 50 m2 platform aimed at reproducing urban floods. The concrete platform is connected with an underlying pipe and a reservoir representing a basement through a manhole. Various input discharge scenarios are tested and the induced surface and pipe flows are measured through a series of sensors : pressure sensor, ultrasonic water level, ultrasonic flow, radar, cameras, magnetic flow meter and temperature. The motivation of this experimental setting is to provide data that could be used to calibrate and test urban flooding numerical models and to demonstrate the usefulness of some additional sensors in cities such as temperature probes to detect manhole overflows or cameras providing films that can be interpreted to estimate water levels or velocities (PIV). The presented work and database does not appear

sufficiently advanced to be published in ESS.

First, the authors do not demonstrate the real usefulness of the produced data. They do neither show comparisons between measured and simulated data, nor try to use the additional proposed data (temperature or films). No attempt of surface velocity retrieval through PIV methods based on films is for instance proposed.

Second, the authors are honest, revealing the limits and uncertainties affecting their database. They often go too much into the details in describing these uncertainties or errors. Some described errors are basic - time shifts between sensors, sensitivity of the measurements to temperature and even perturbations due to external elements (such as pedestrians perturbing radar measurements). Some of these errors should be avoided if possible during the experiments, other should be filtered out during data processing. The critical analysis of data sets left to the users should be limited. The users should be able to download what can be considered as high quality data. Some sentences are worrying in the text : "The offsets were only determined for the last two days (, since the experiments conducted previously were not judged to be of sufficient quality...", suggesting that the data set contains data of highly variable quality and that the authors let the users make their own selection. This is not really acceptable and compatible with the quality requirements of the data sets presented in ESS.

Third, the experimental setting is relatively impressive (volume, surface) but represents an extremely simple system : one single manhole. I have some doubts that such a simple experiment provides original and new data sets to test and calibrate urban flood simulation models. At least this should be illustrated in the manuscript.

Finally, the figures in the manuscript are hardly readable and should be significantly improved. An annotated manuscript is attached to this review.

Please also note the supplement to this comment:
http://www.earth-syst-sci-data-discuss.net/essd-2017-7/essd-2017-7-RC2-

supplement.pdf

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