

## **Overview**

The authors introduce a new concept for the design of open check dam (the introduction of a guiding channel) and study through experiments its interaction with different sediments retaining techniques.

The work presented by the authors is very interesting but needs some corrections and additions before its publications.

The following are the detailed comments and specifications.

## **Introduction**

Last sentence too long and confuse: please rewrite it.

## **Design approach for permeable sediments trap**

The orientation of figure 1 shows a channel with an adverse slope. Could be it possible a figure with the channel inclined along the flow direction? Moreover, authors should introduce an insert or a new figure that explains the possible cases of open barriers: simple openings, bar screen or a combination of them. In present figure only the bar screen is visible.

## **Experimental set up**

The Microsoft Kinect V2 seems and adapter rather than a motion-sensing camera

## **Parameters and dimensional considerations**

About dimensional analysis the writer has some concern about the resulting dimensionless quantities. The dimensionless quantities should have at least one of the chosen fundamental variables. Authors should justify the presence of dimensionless quantities without them.

## **Evolution bed load transfer through the barrier**

About Figure 8, could be it possible to add the inflowing sediment rate  $\Phi_i$ ?

## **Applications and limits**

The sentence at lines 17-21 of page 16 should be rewritten clearly. For instance, “(steps 8 and 9 in Piton and Recking, 2016a)” should be inserted after “is similar to.....”.

Bed load intensity in Figure 7 is time variant while in Figure 14 is constant.

Finally, I would suggest the authors to give just some more detail on sediment flushing and its consequence on the downstream area.