

Interactive comment on “Study on the effects of storm movement on rainfall-runoff modelling at the basin scale” by S. K. Sigarood and Q. Chen

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This manuscript evaluated the effects of rainfall movement on overland simulation through modelling the rainfall-runoff under stationary condition and moving condition at the basin scale. It is a very interesting topic, which can be beneficial to flood peak forecasting. And it is suitable for being published in Hydrology and Earth System Sciences. Also, it is well-organized. Therefore, I recommend being accepted after several minor revisions be made. –We thank the referee for this favorable and encouraging assessment on our manuscript. We are very grateful for his/her time and constructive comments on our manuscript. We have carefully considered all the comments and revised substantially the manuscript in accordance with these comments.

Detailed comments: 1. Legends for the figures are required. Also, more explanation for

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these figures should be added. And the differences among different color lines should be given more explanation in Fig.10. –Thanks indeed for your careful comment. More explanations were added to the figures 4, 5 and 10. The figure 3 and 4 were redrawn. Please refer to lines 99-105, 117-121 and 180-181.

2. Fig. 4 is interesting, however, more explanation are required, such as how to get sub-figure d. –Thanks indeed for your great suggestion. This figure is very important to understand the whole paper. The Figure 4 was remade, and was explained step by step in revised manuscript. Please refer to line 98 -105.

3. Line 142, what are the unique characteristics? Clarify please! In addition, the method for estimating the coefficients a, b, and c should be introduced. –Thanks indeed for your important comment. The phrase was replaced by “different direction and speeds”. Please refer to line 167. The method to calculate a, b and c was explained with reference to Howard (2010). Please refer to lines 124-126.

4. The calibration and validation of HEC-HMS model should be described. – Thanks for your great suggestions. More explanations and two tables were added to the revised manuscript about the calibration and validation of HEC-HMS model. Please refer to line 146-154 and new Tables 1 and 2.

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