



## ***Interactive comment on* “Technical Note: Variability of flow discharge in lateral inflow-dominated stream channels” by C.-M. Chang and H.-D. Yeh**

### **Anonymous Referee #1**

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The Comments on the manuscript entitled “Variability of flow discharge in lateral inflow-dominated stream channels” submitted to publish in “Hydrology and Earth System Sciences”: I appreciate the Editor to give me a chance to review a valuable article. Although the length of the paper is low, I think that there is sufficient knowledge in the manuscript to consider publishing in HESS as a technical note. I recommend the below corrections before acceptance: 1. This sentence is clear for all experts in the field “Upon evaluating the closed-form expressions, it is found that the variability in stream flow discharge increases with distance from the upstream boundary of the channel and time as well.”. Instead, the authors should focus on the new results of the inves-

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tigation. 2. Add some of the most important quantitative results to the Abstract. 3. Add a more new (2015) reference (in below) for the first sentence of the Introduction: Long-term runoff study using SARIMA and ARIMA models in the United States 4. Add two more new (2012, 2014 & 2015) references (in below) to this sentence “Natural variability, such as significant variability of rainfall events on both temporal and spatial scales”: Critical Areas of Iran for Agriculture Water Management According to the Annual Rainfall Future of agricultural water management in Africa A comprehensive study on irrigation management in Asia and Oceania 5. In the last paragraph of the Introduction, the authors should mention the weaknesses point of the previous works (gaps identification) and novelty of current investigation to justify us this paper deserves to be published in HESS. 6. Simplification of Saint-Venant equations leads to increase of uncertainty. In this case, it is necessary to cite some of the successful applications of this method to underline that the results are reliable. For this purpose, add the below papers: Simulation of open- and closed-end border irrigation systems using SIRMOD Optimize of all Effective Infiltration Parameters in Furrow Irrigation Using Visual Basic and Genetic Algorithm Programming Sensitive Analysis of Optimized Infiltration Parameters in SWDC model 7. In the Conclusions, the authors should mention the sources of error in this study to consider them in next investigations. 8. What is the reason of different distance between  $\xi=0.35$  &  $\xi=0.5$  vs.  $\xi=0.5$  &  $\xi=0.65$  (Figure 1)? 9. There is no (a) & (b) in Figure 1! 10. Quality of the language needs to improve. A native English speaker should check whole of the manuscript for grammatically errors.

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