

Interactive comment on “Coupling slope-area analysis, integral approach and statistic tests to steady state bedrock river profile analysis” by Yizhou Wang et al.

Yizhou Wang et al.

wangyizhou.-123@163.com

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In this contribution, we compare and combine two well-known methods, the slope-area and integral approach, to analyze steady state bedrock channels. Using a well-studied set of streams in Mendocino Triple Junction (MTJ) region of northern California as a test case, we illustrate that The slope-area method is useful to identify scaling breaks (variation in substrate along a river), which are then used as limits over which to apply the integral method. The integral approach yields better-constrained values of channel concavity and steepness parameters with low uncertainty. Statistical tests (Durbin-Watson test, Spearman rank correlation coefficient test) are then performed to examine if residuals are independent and homoscedastic. The coupled process

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thus can produce more reliable and robust estimates of uncertainties in stream power parameters.

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