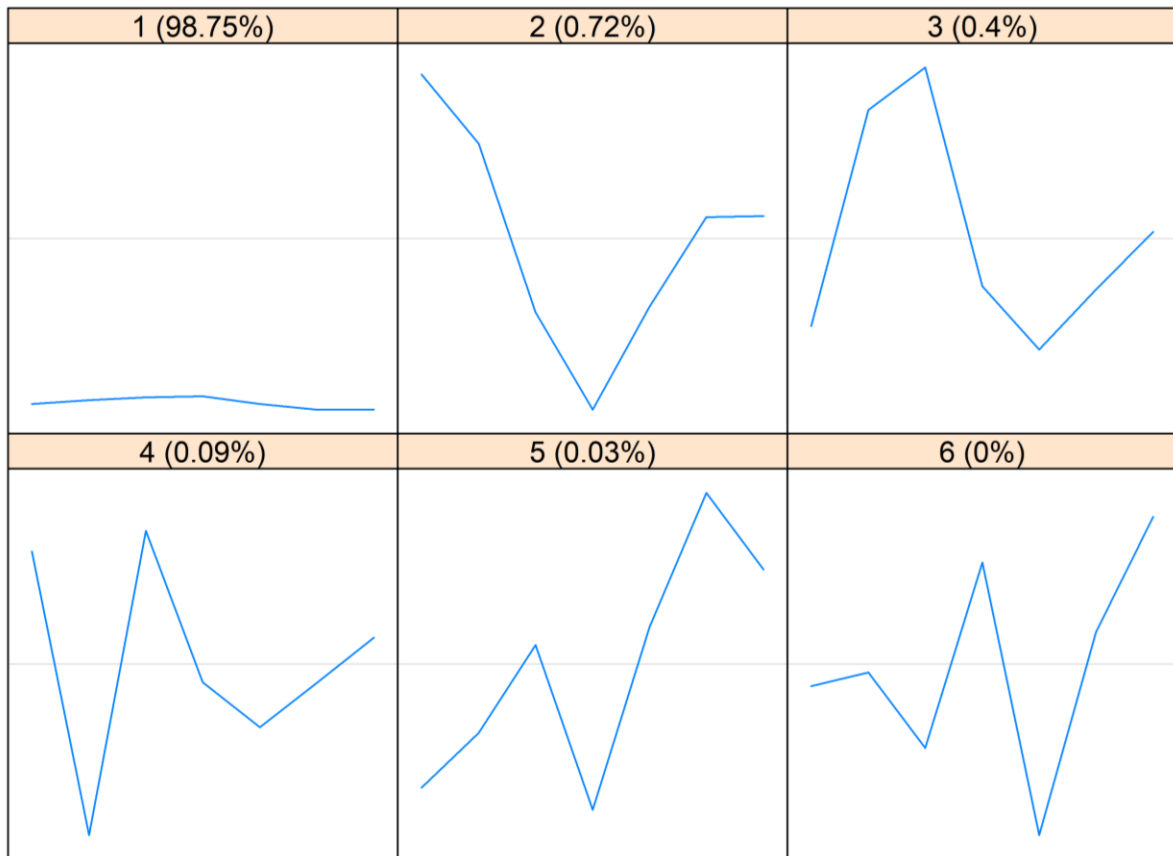


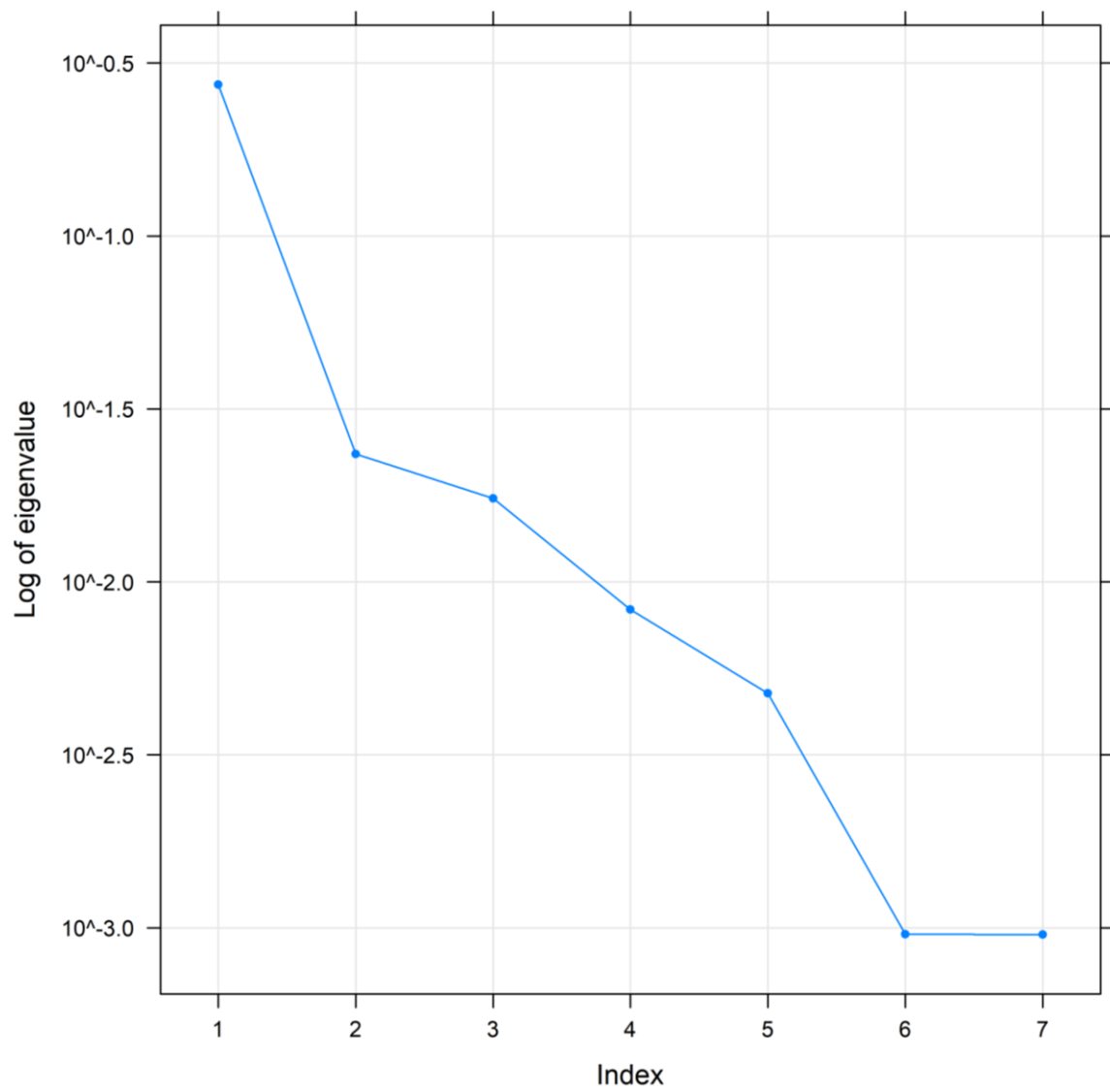
**Table S1.** Infiltration characteristics computed for different concentration levels and suspended solid sizes.

| Suspended solid | Concentration (g/l) | Cumulative IF (min) | Max IF (mm/min) | Min IF (mm/min) | Avg. of IF (mm/min) | Constant IF (mm/min) | Time to constant IF (min) |
|-----------------|---------------------|---------------------|-----------------|-----------------|---------------------|----------------------|---------------------------|
| Clean water     | 0                   | 0.94                | 0.16            | 0.07            | 0.08                | 0.06                 | 70**                      |
| Clay            | 2                   | 0.43                | 0.04*           | 0.02*           | 0.03*               | 0.04                 | 70**                      |
| Silt            | 2                   | 1.29                | 0.16            | 0.08            | 0.11**              | 0.09                 | 70**                      |
| Sand            | 2                   | 0.49                | 0.07            | 0.05            | 0.06                | 0.05                 | 35                        |
| Clay            | 5                   | 0.41                | 0.06            | 0.02*           | 0.04                | 0.04                 | 55                        |
| Silt            | 5                   | 0.37                | 0.08            | 0.04            | 0.06                | 0.05                 | 20*                       |
| Sand            | 5                   | 1.49**              | 0.18**          | 0.13**          | 0.14                | 0.13**               | 55                        |
| Clay            | 10                  | 0.24*               | 0.05            | 0.02*           | 0.03*               | 0.02*                | 25                        |
| Silt            | 10                  | 0.35                | 0.05            | 0.03            | 0.04                | 0.03                 | 35                        |
| Sand            | 10                  | 0.88                | 0.12            | 0.08            | 0.11**              | 0.08                 | 35                        |

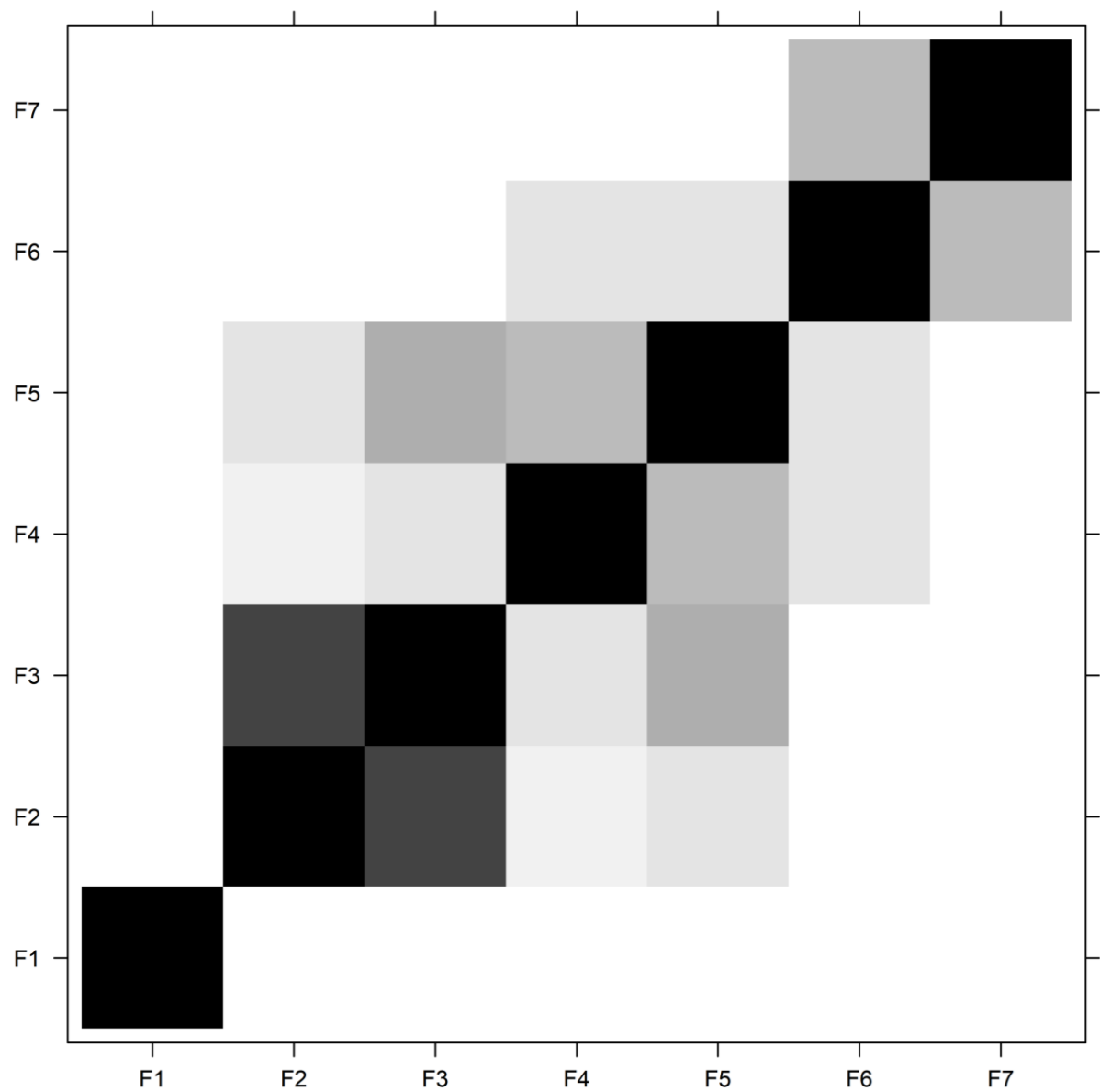
\* and \*\* denote the minimum and maximum amount of the infiltration characteristics computed respectively. IF refers to the Infiltration Rate.



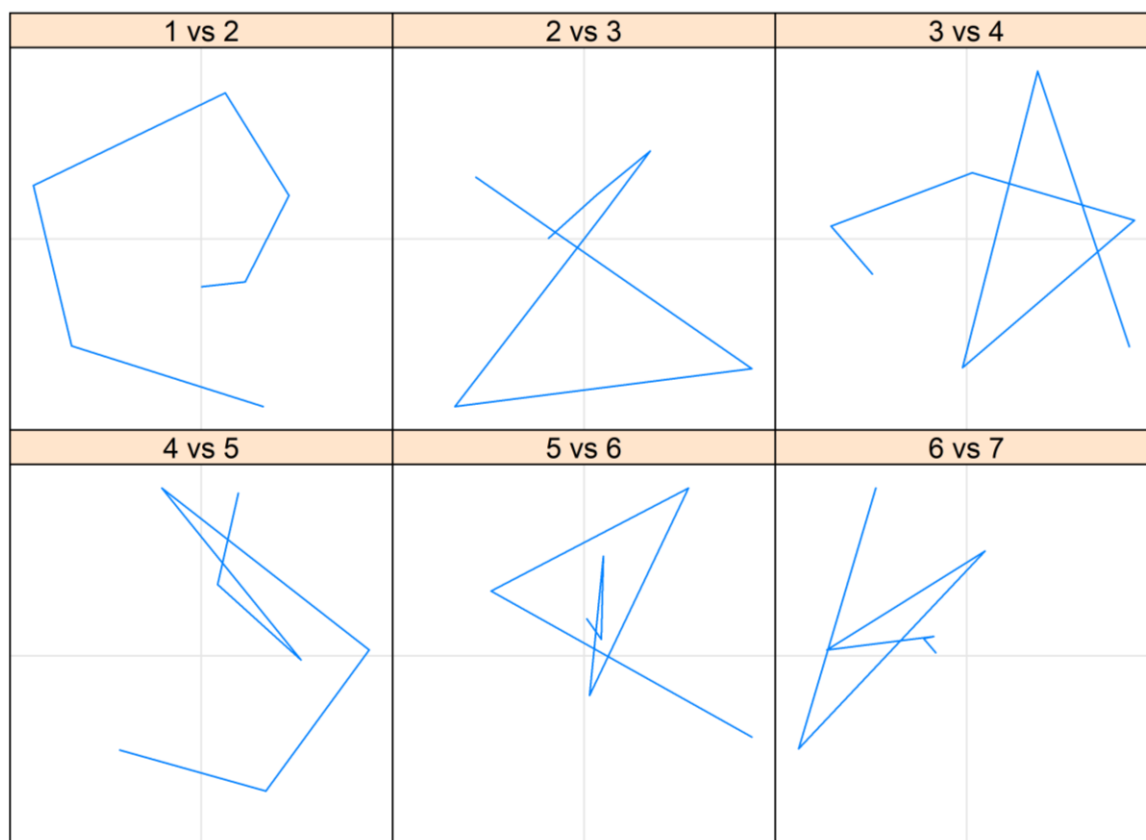
**Figure S1.** 1st stage: eigenvectors (L = 12): infiltration rate under treatment 2 g/l clay-sized suspended solids (L = 6).



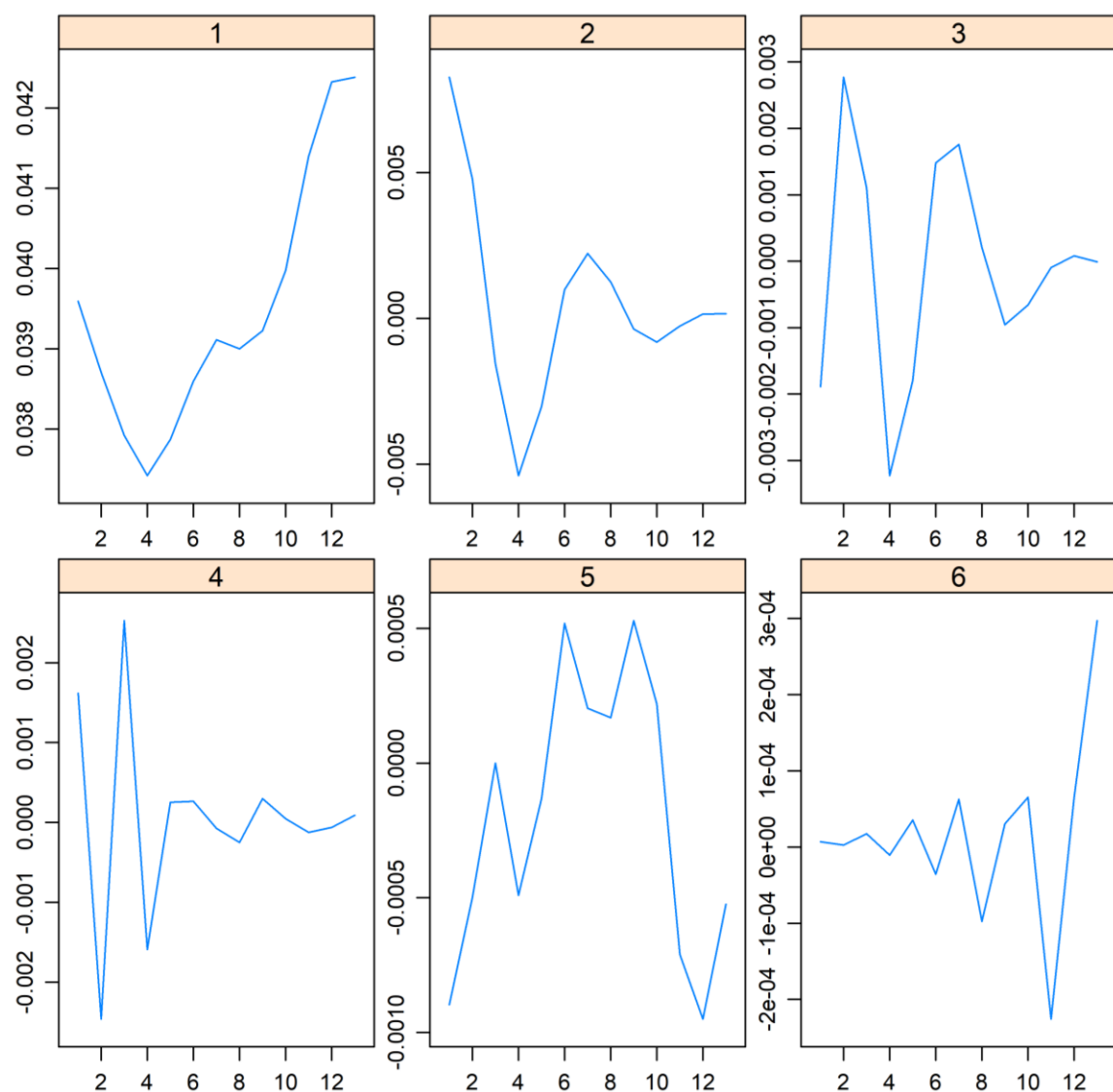
**Figure S2.** 2nd stage: eigenvalues: The six eigenvalues calculated for infiltration rate under treatment 2 g/l clay-sized suspended solids ( $L = 6$ ).



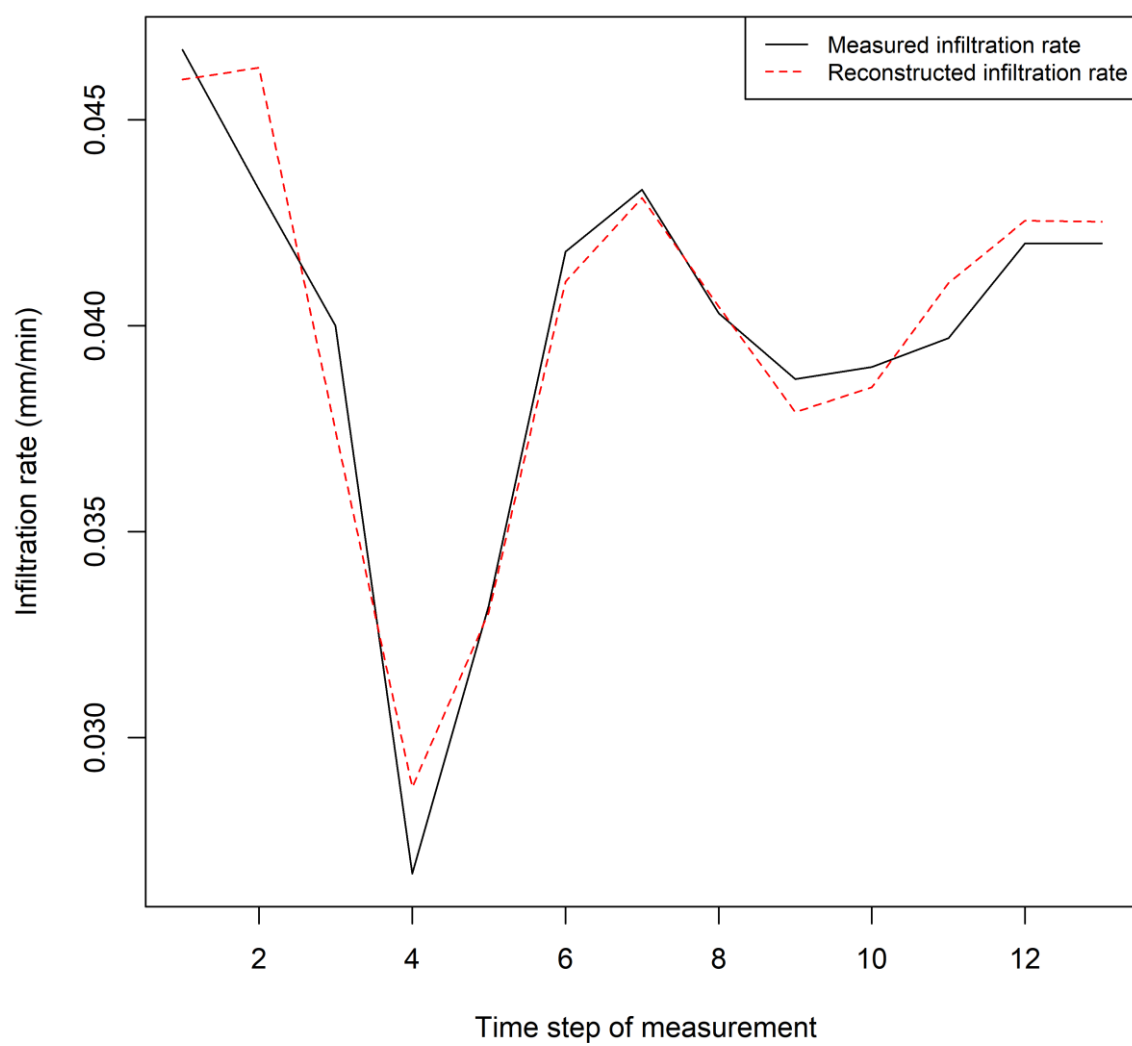
**Figure S3.** 2nd stage: w-correlation matrix: infiltration rate under treatment 2 g/l clay-sized suspended solids (L = 6).



**Figure S4.** 2nd stage: scatterplots for eigenvector pairs: infiltration rate under treatment 2 g/l clay-sized suspended solids ( $L = 6$ ).



**Figure S5:** Initial Reconstructed infiltration rate under treatment 2 g/l clay-sized suspended solids using each of eigenvectors (see Figure S1)



**Figure S6:** Reconstructed infiltration rate of 2 g/l clay-sized suspended sediments ( $L = 6$ ).