

Rheology comparison through the statistical analysis of TITAN2D dynamics

Parameters ranges – all uniformly sampled in linear scale, 256 samples

Inclined plane experiment

VOLUME – $[0.79, 1.21] \times 10^{-3} \text{ m}^3$

MC

ϕ_{bed} - $[15^\circ, 37^\circ]$ $[\tan(\phi_{\text{bed}}) = (0.27, 0.75), \text{ consistent with } \mu \text{ of VS}]$

ϕ_{int} - $[35^\circ, 45^\circ]$

VS

μ - $[0.20, 0.80]$

ξ - $[50, 5000]$

PF

ϕ_1 - $[30^\circ, 38^\circ]$

ϕ_2 - $[39^\circ, 45^\circ]$

β - $[0.10, 0.85]$

L - $[0.1, 10]$

FIGURE 1 – Correlations between Driving Term and Flow Extent.

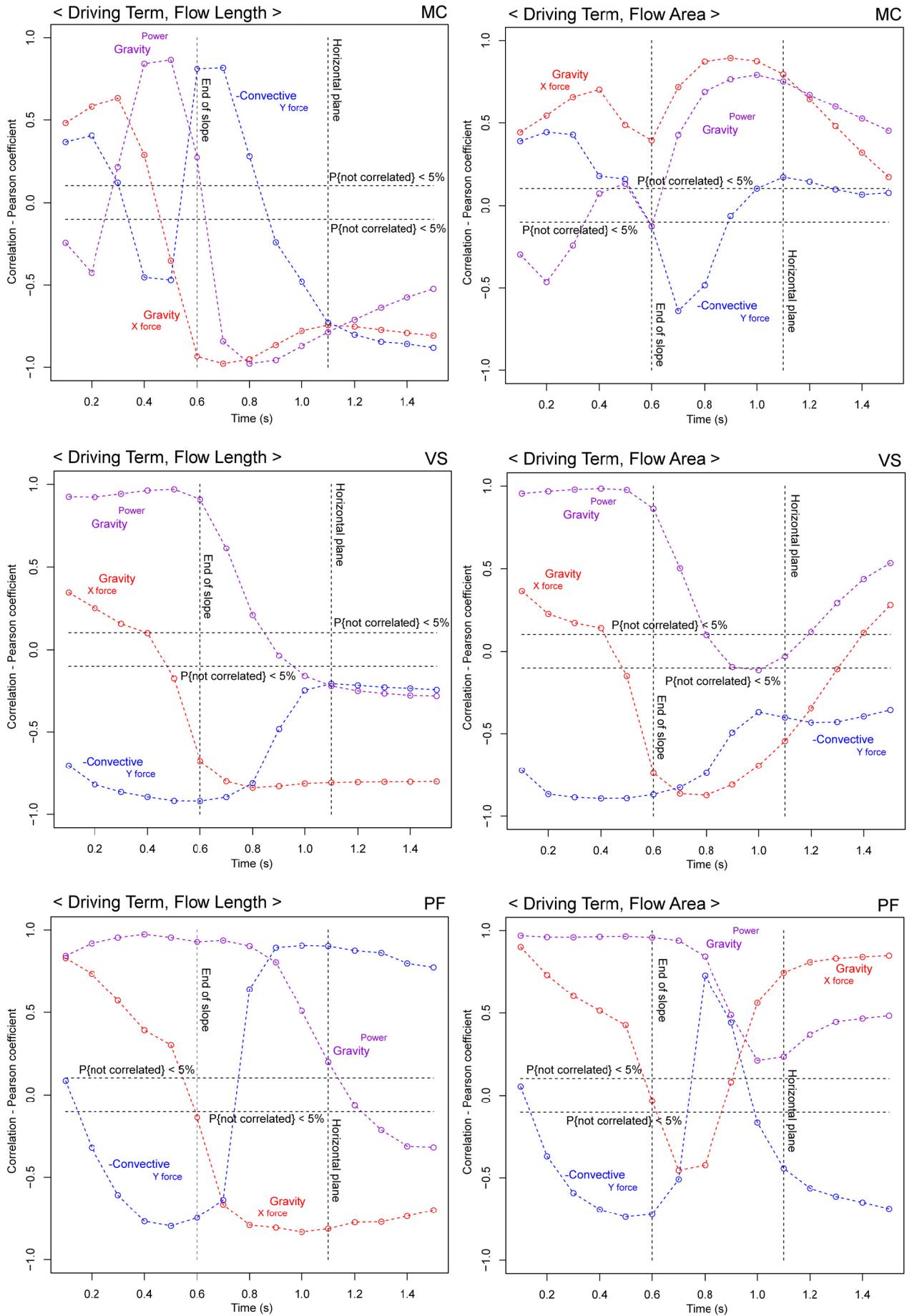


FIGURE 2 – Correlations between Bed Friction and Flow Extent.

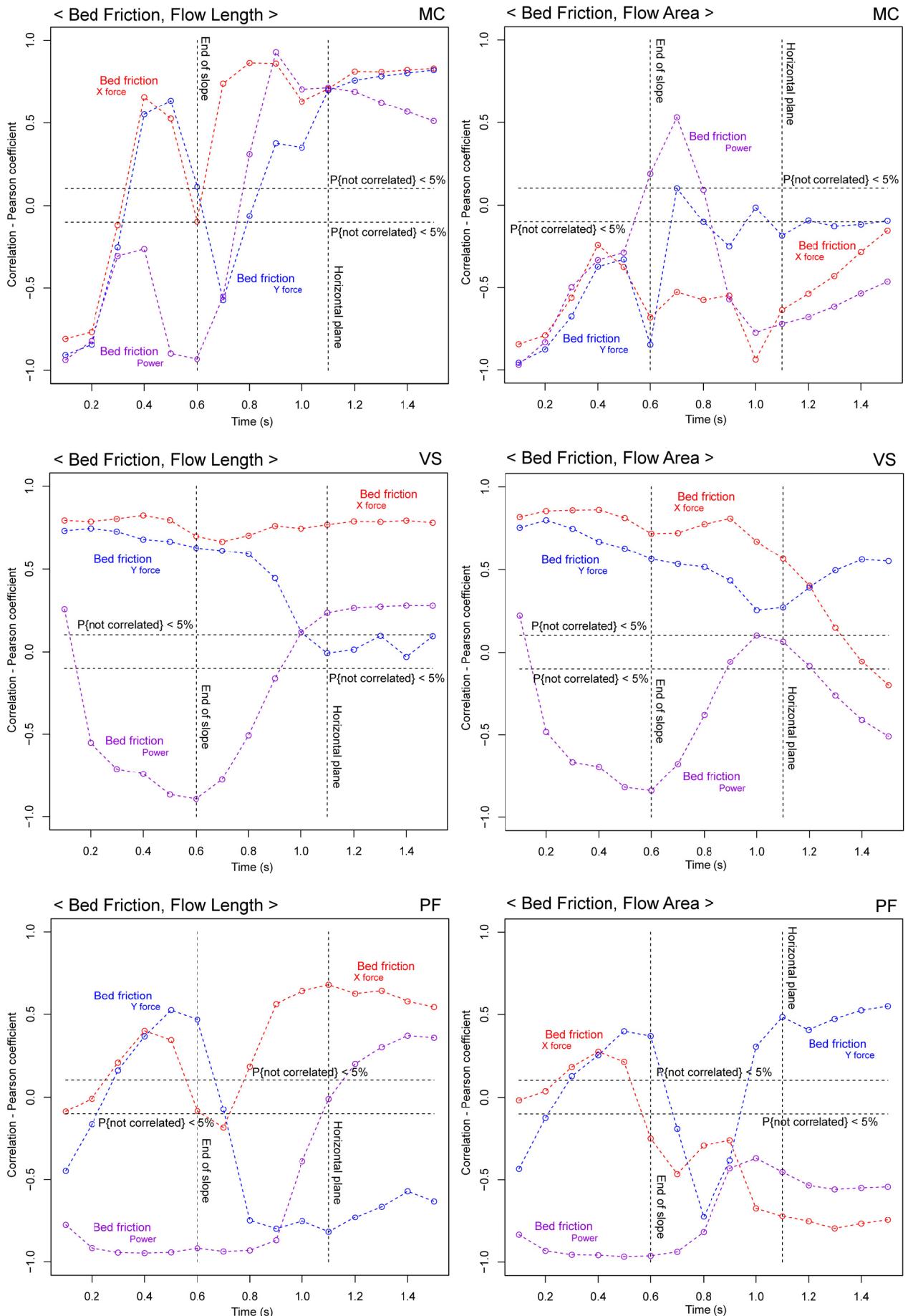


FIGURE 3 – Correlations between Internal Term and Flow Extent.

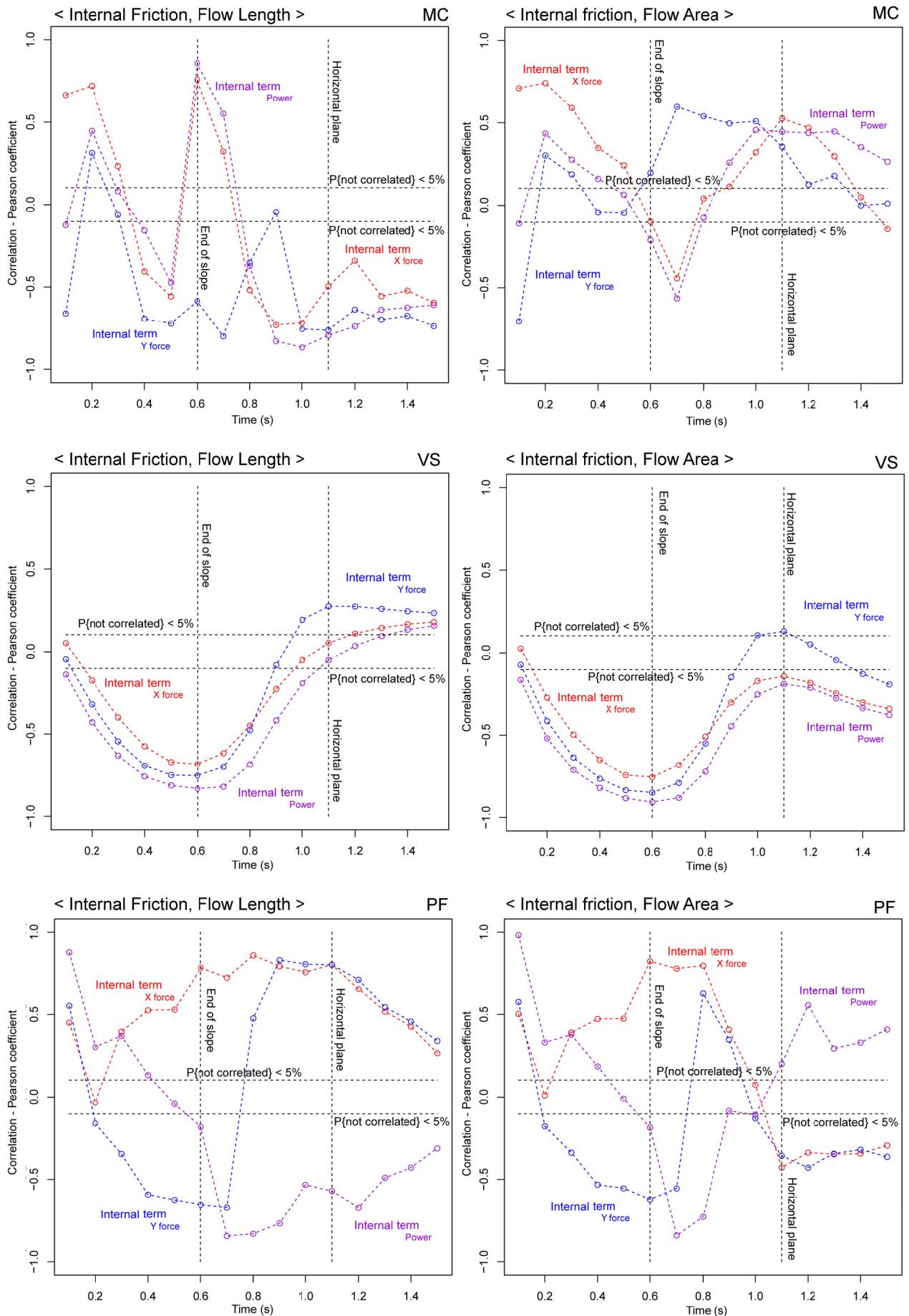


FIGURE 4 – Correlations between Driving Term and Bed Friction.

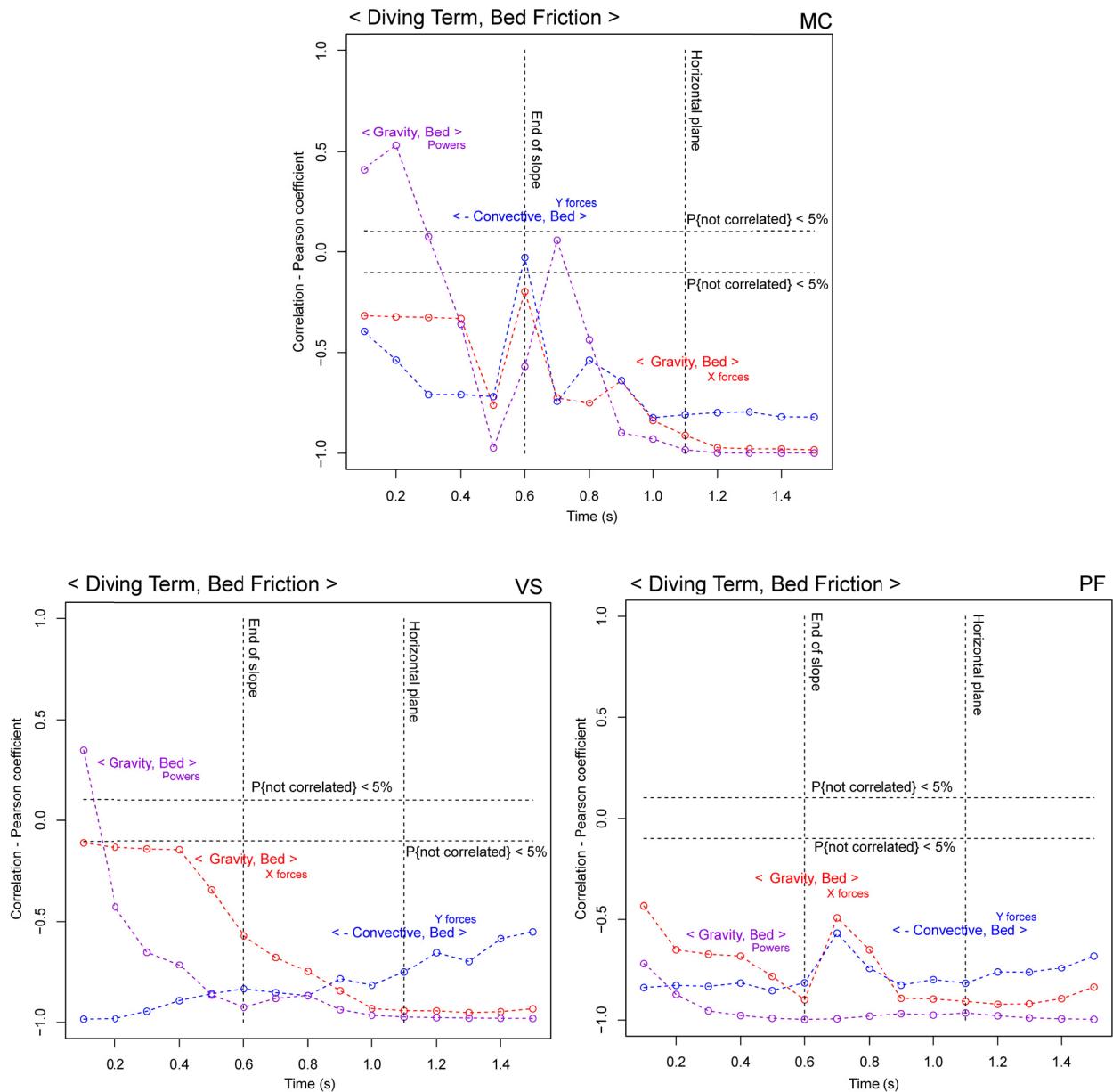


FIGURE 5 – Correlations between Driving Term and Internal Term.

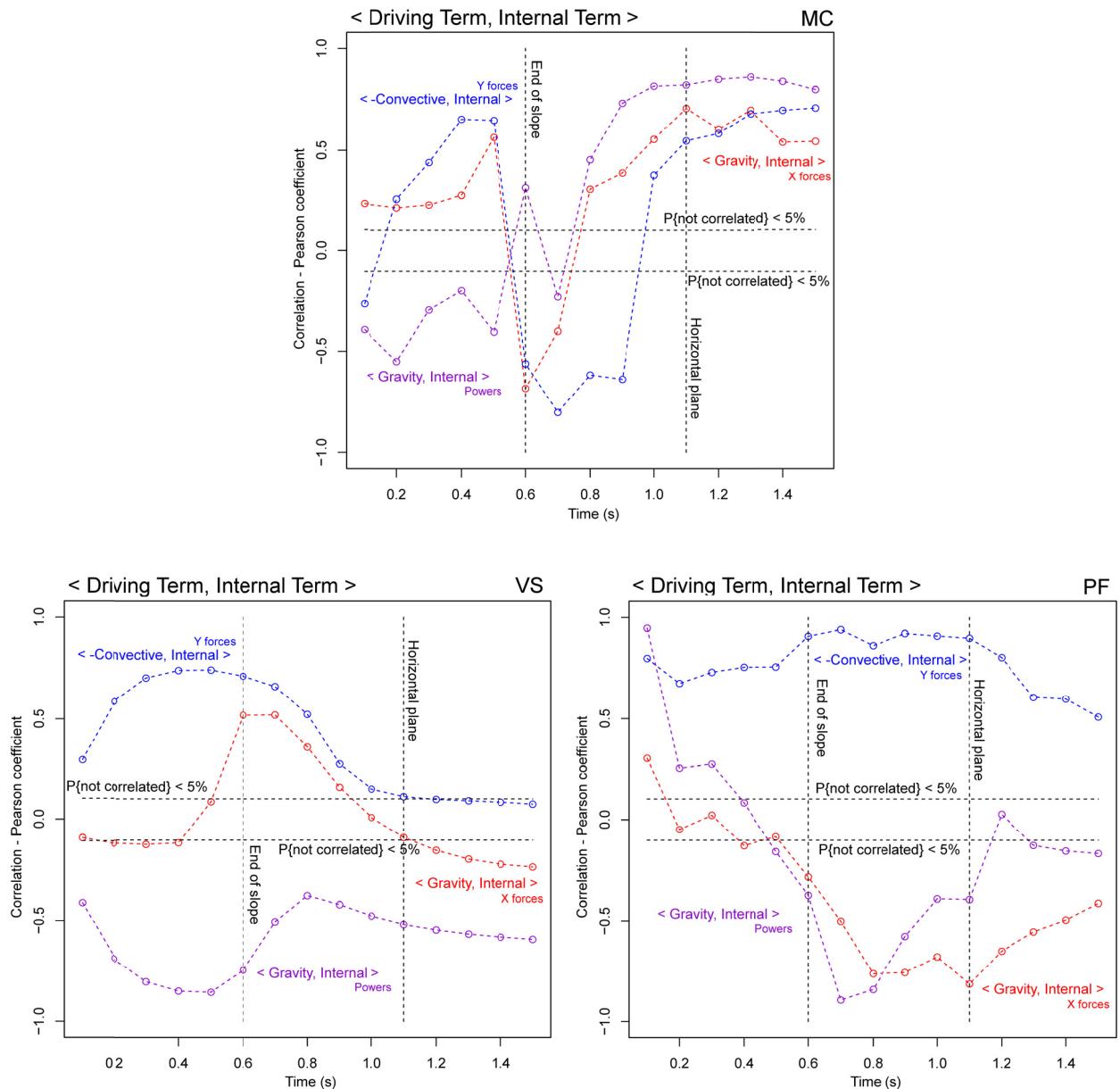


FIGURE 6 – Correlations between Bed Friction and Internal Term.

