

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

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

$\phi_{\text{int}} - [35^\circ, 45^\circ]$

VS

$\mu - [0.20, 0.80]$

$\xi - [50, 5000]$

PF

$\phi_1 - [30^\circ, 38^\circ]$

$\phi_2 - [39^\circ, 45^\circ]$

$\beta - [0.10, 0.85]$

$L - [0.1, 10]$

FIGURE 1 – Forces in X direction

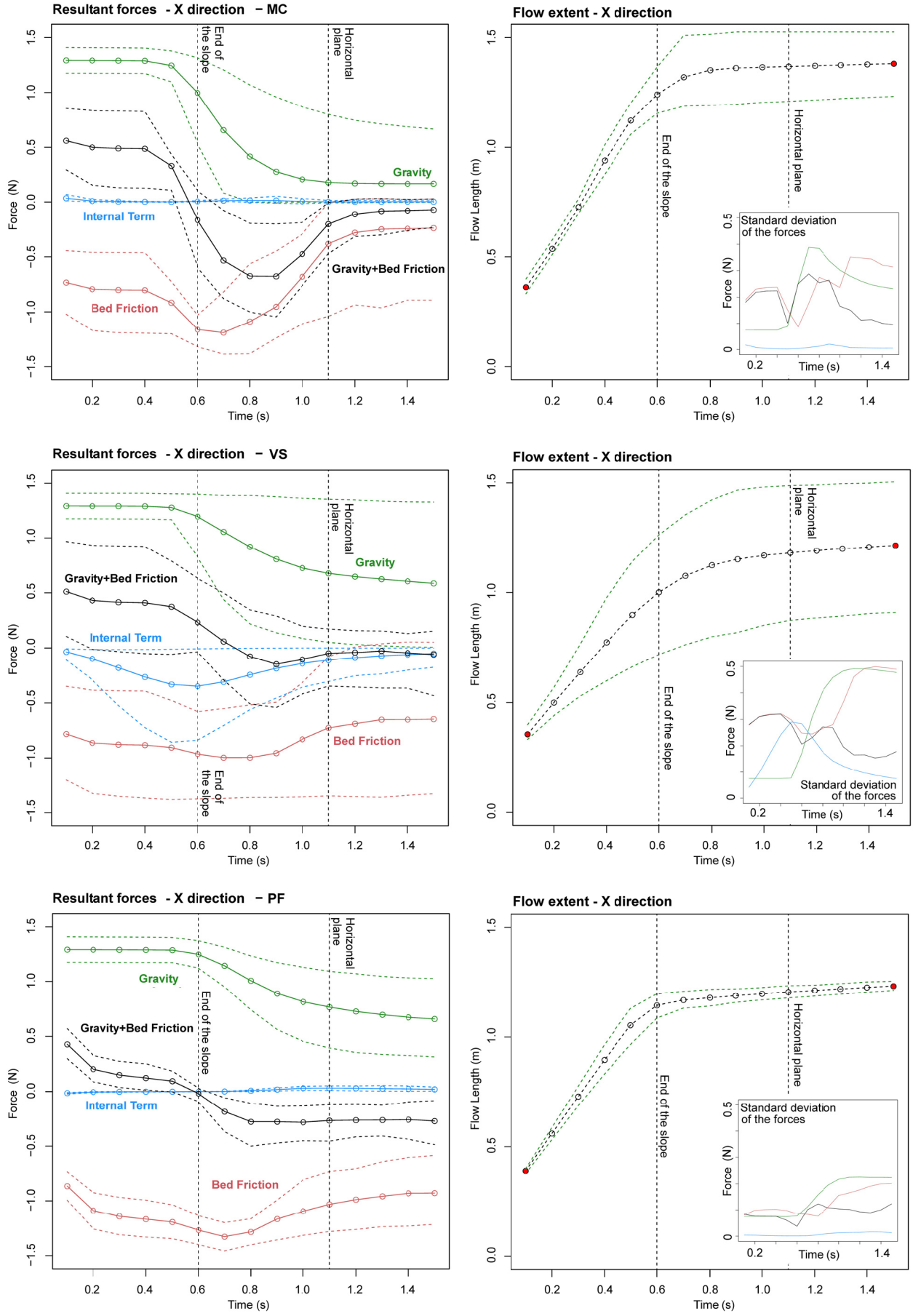


FIGURE 2 – Forces in Y direction

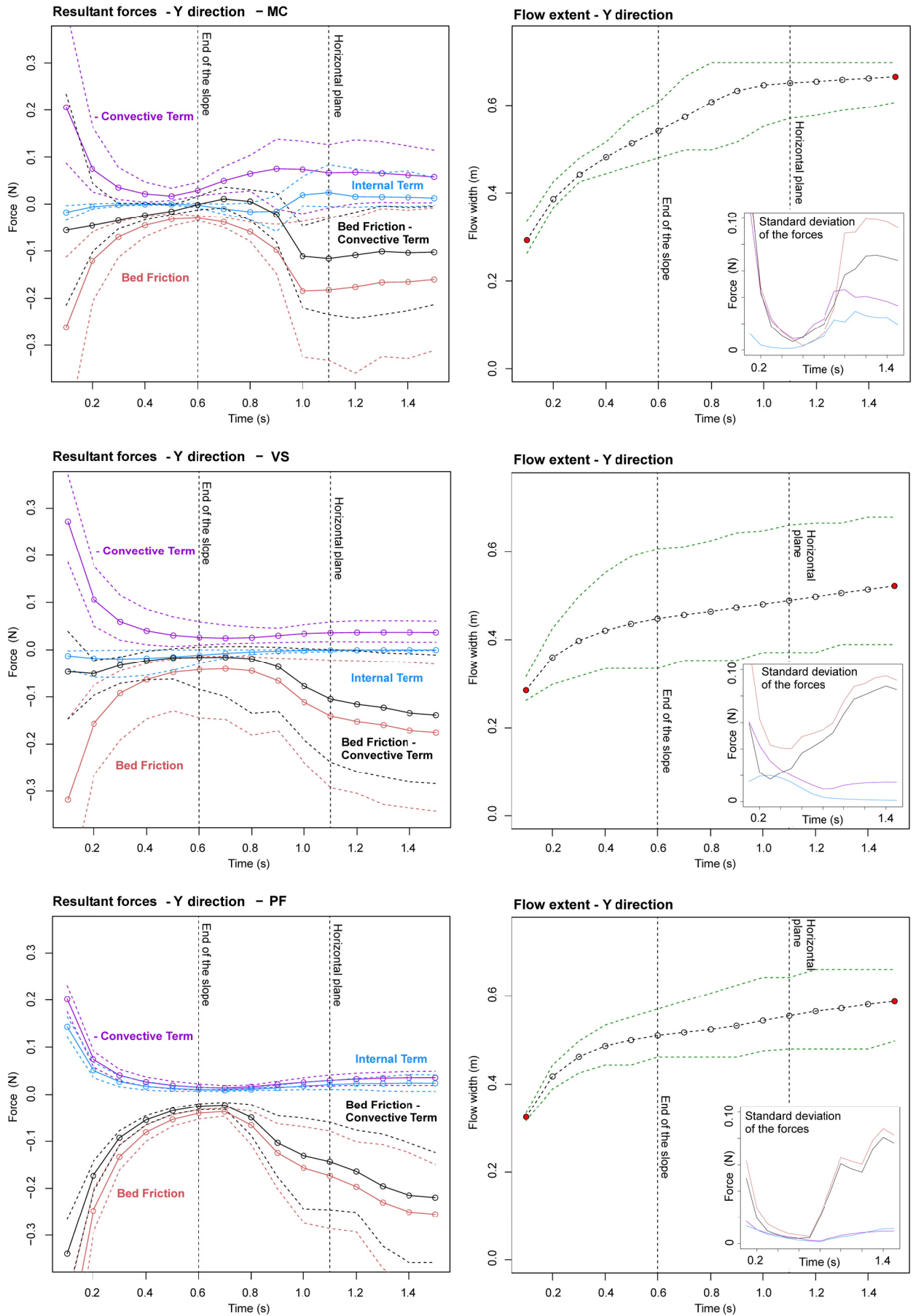


FIGURE 3 – Powers

