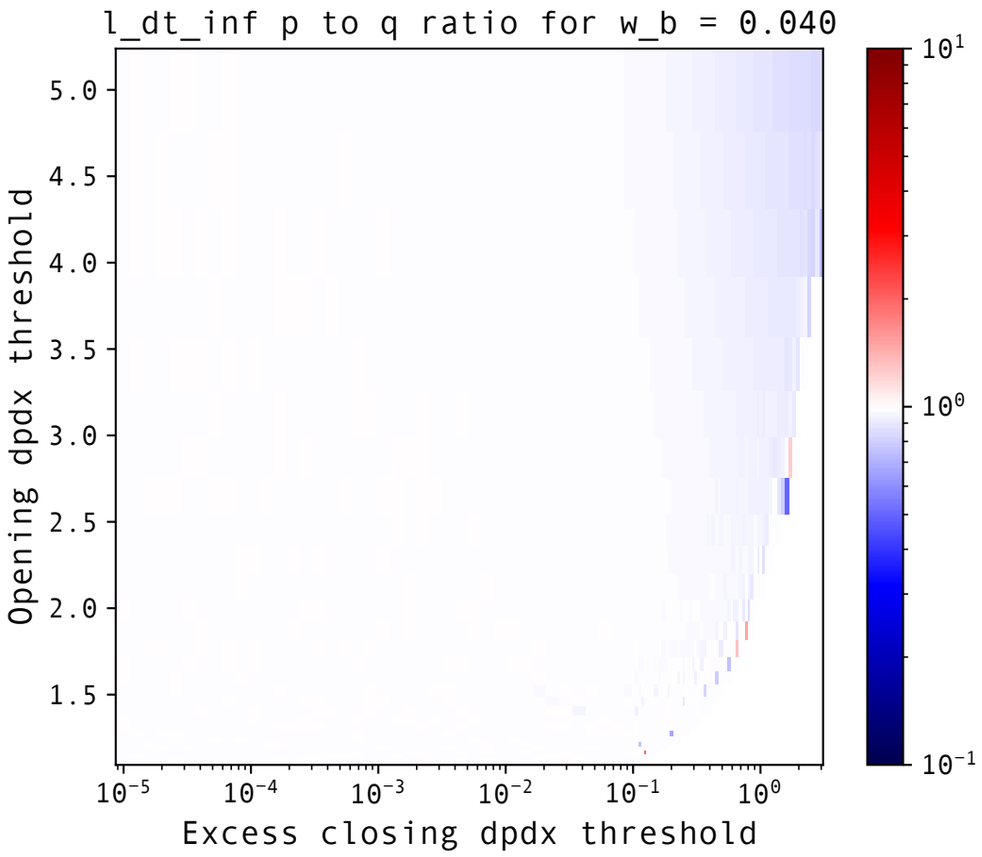
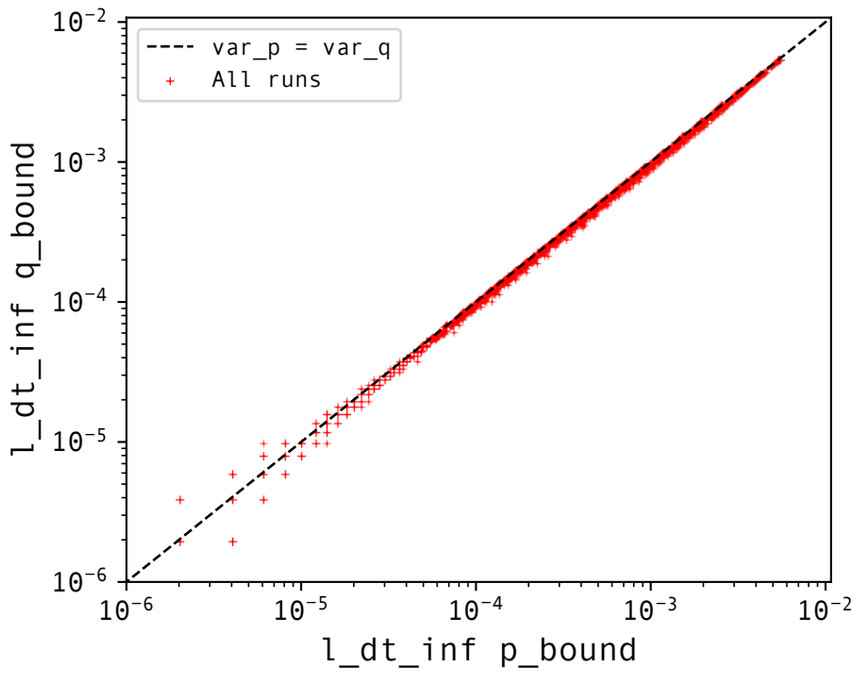
Dynamics of an isolated valve

(b) Results: Q_bound v. P_bound: l_dt_inf





Observations:

In the investigated range of parameters, we observe consistent differences in the characteristics of the cycle between Q and P boundaries.

1/ All over, for fixed Q at the boundaries, loading periods are almost identical as for fixed P at the boundaries, even if very slightly longer for P boundaries

2/ All over, for fixed Q at the boundaries, unloading periods are longer than for fixed P at the boundaries. For unloading periods lower than 1e-2 though, we could consider that the loading/ unloading values are very similar.

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(c) Next runs q_inf for P_bound

Measuring the flux at dynamic equilibrium *q_inf* for fixed pressure at the boundaries could give us information about the effective permeability of a valve.

Measuring *at which distance from the valve q_inf for a P_bound* (resp. dP_inf for Q_bound) *is maintained consistently* could also give us information on somekind of effective width of the valve, or interaction distances.