Around permanent regime

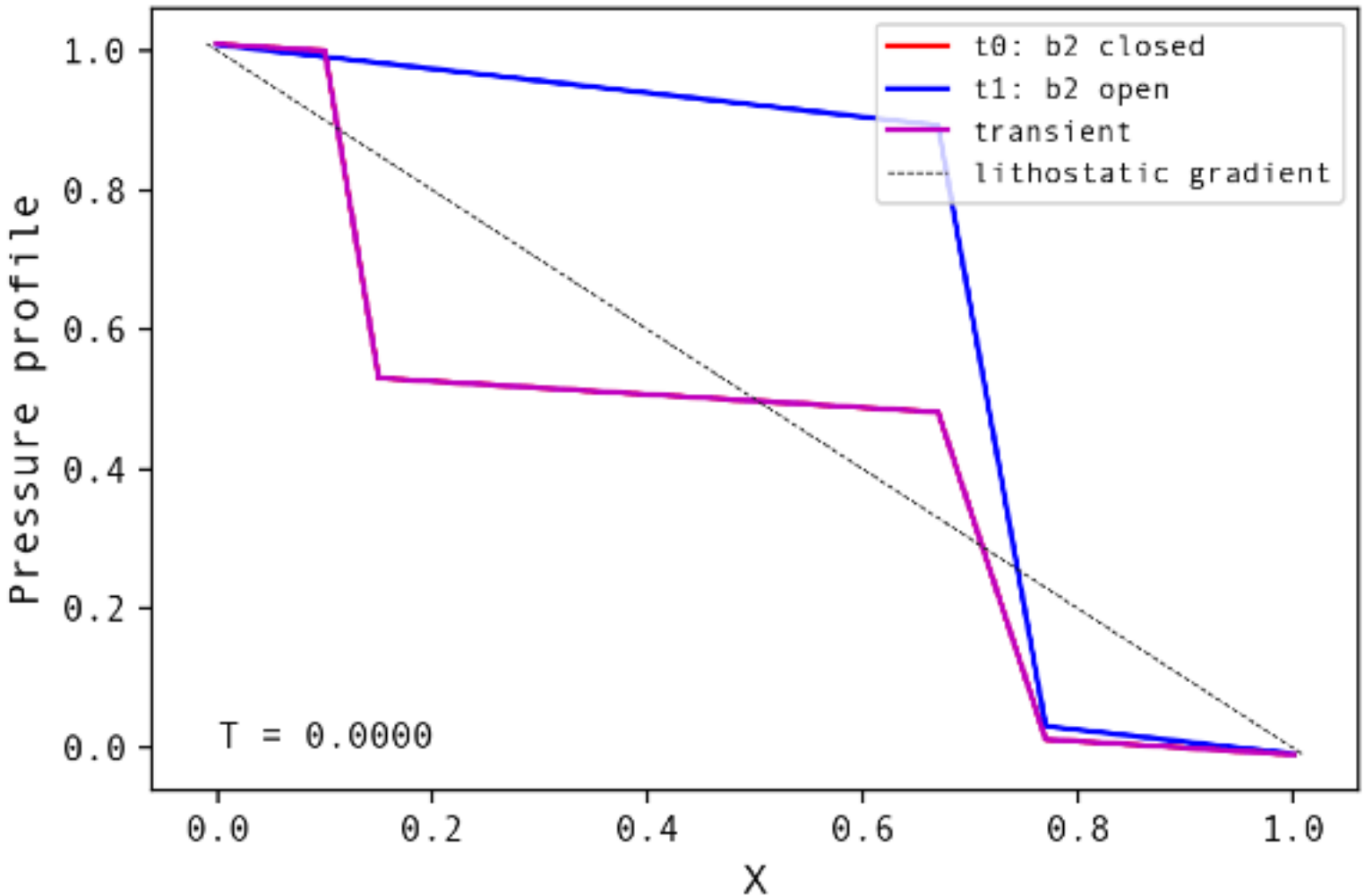
(a) PP boundaries: transient from valve breaking

Experiment:

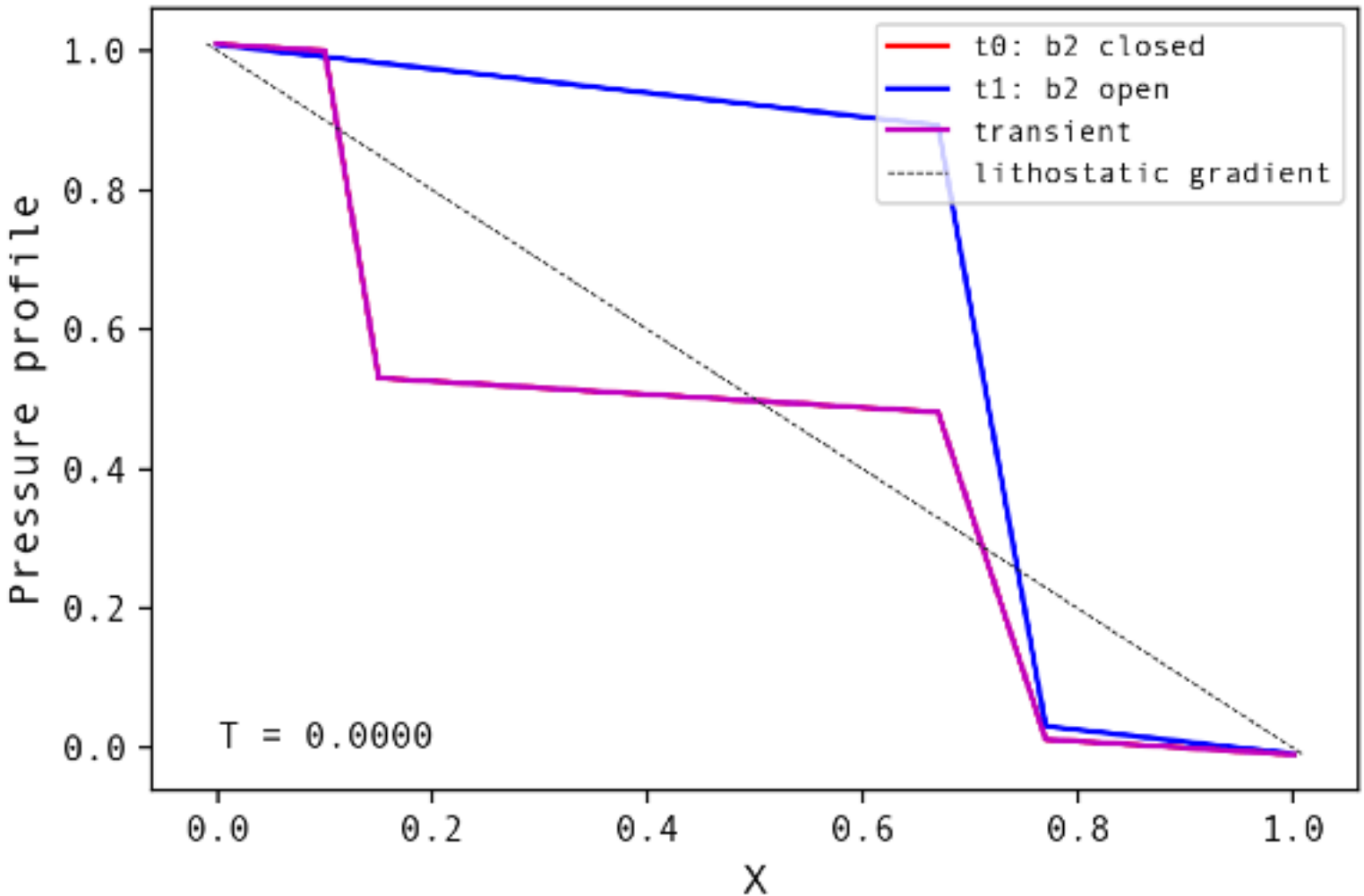
- Init. equilibrium pore-pressure profile when 2 valves are closed, but valve nb1 is open ($k_b = k_{bg}$).
- Observe the propagating transient

Observation:

- transient progresses from one valve to the other, to redistribute total dP on background segments and barriers.
- dP across remaining valve is increased (closer to failure?)
- overpressure (above lithostatic gradient) is increased (closer to failure?)


t0: b2 closed
t1: b2 open
transient
lithostatic gradient
Pressure profile
X
T = 0.0000
0.0
0.2
0.4
0.6
0.8
1.0

↓ this is a gif, click on it to play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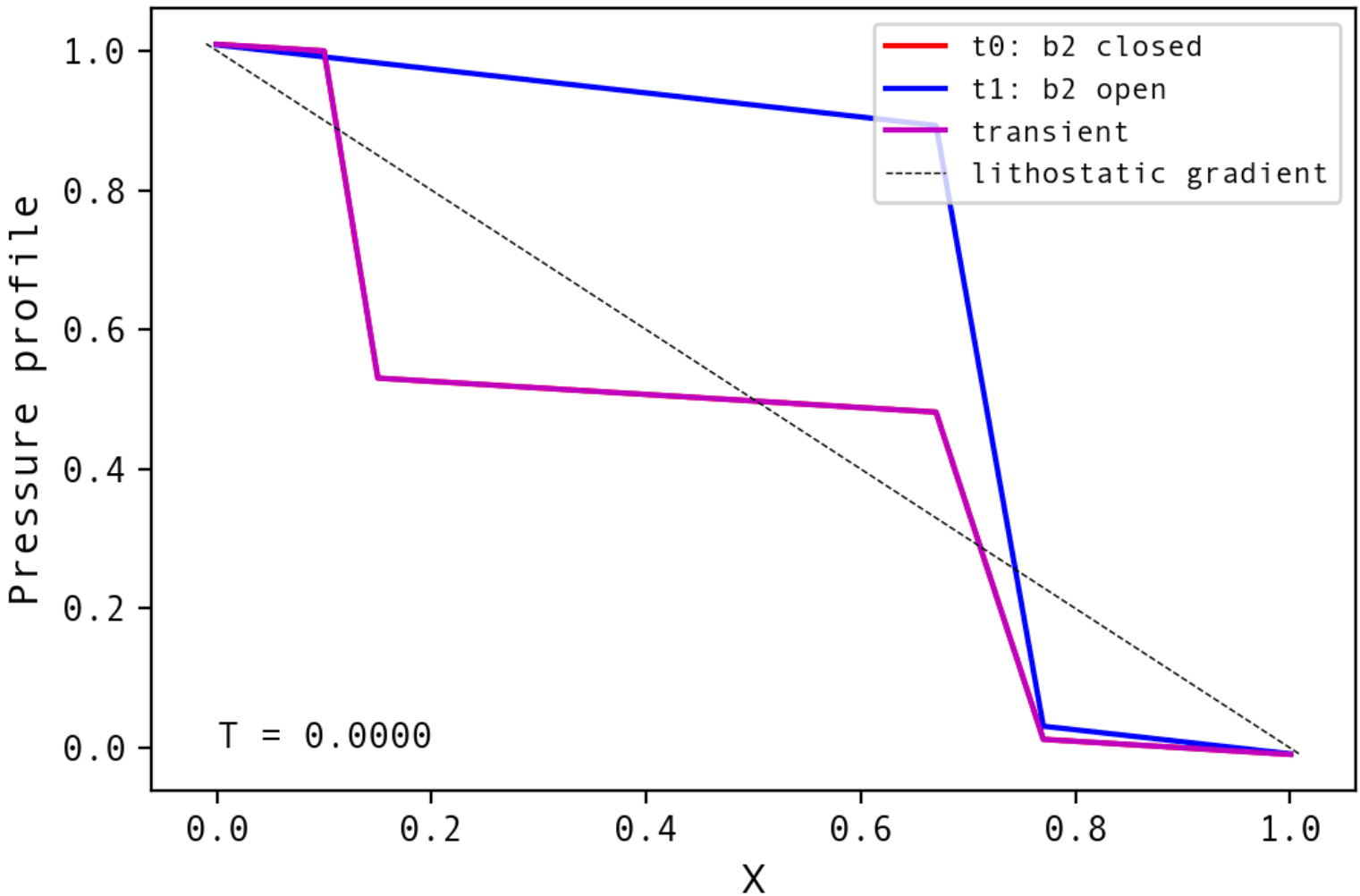
t0: b2 closed
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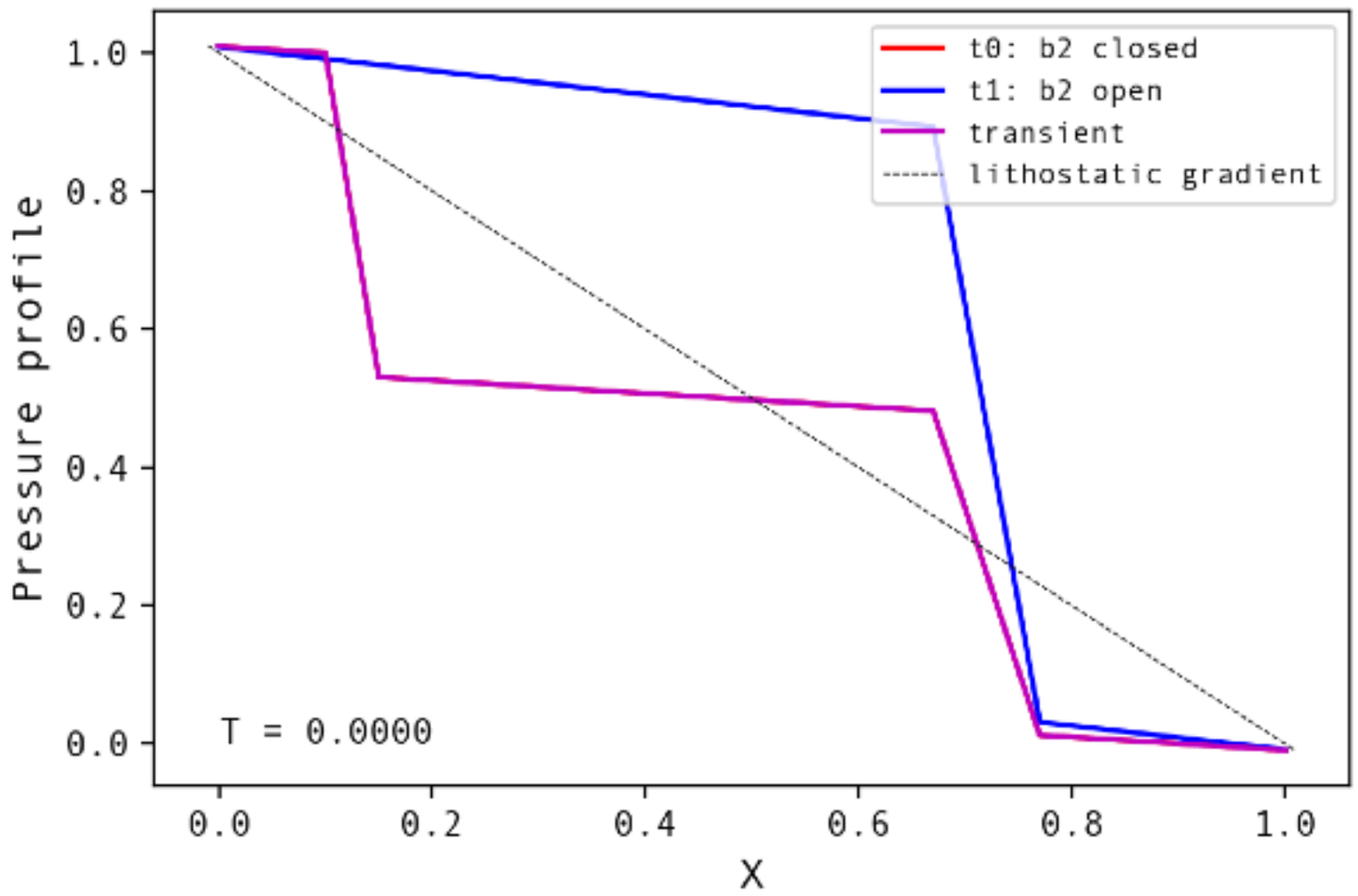

Around permanent regime

(a) PP boundaries: transient from valve breaking

Experiment:

- Init. equilibrium pore-pressure profile when 2 valves are closed, but valve nb2 is open (k_b = k_bg).
- Observe the propagating transient

Observation:

- transient progresses from one valve to the other, to redistribute total dP on background segments and barriers.
- dP across remaining valve is increased (closer to failure?)
- overpressure (above lithostatic gradient) is decreased (brought further from failure?)

↓ this is a gif, click on it to play