



Hotfire 3.1

Propulsion Subteam - McGill Rocket Team

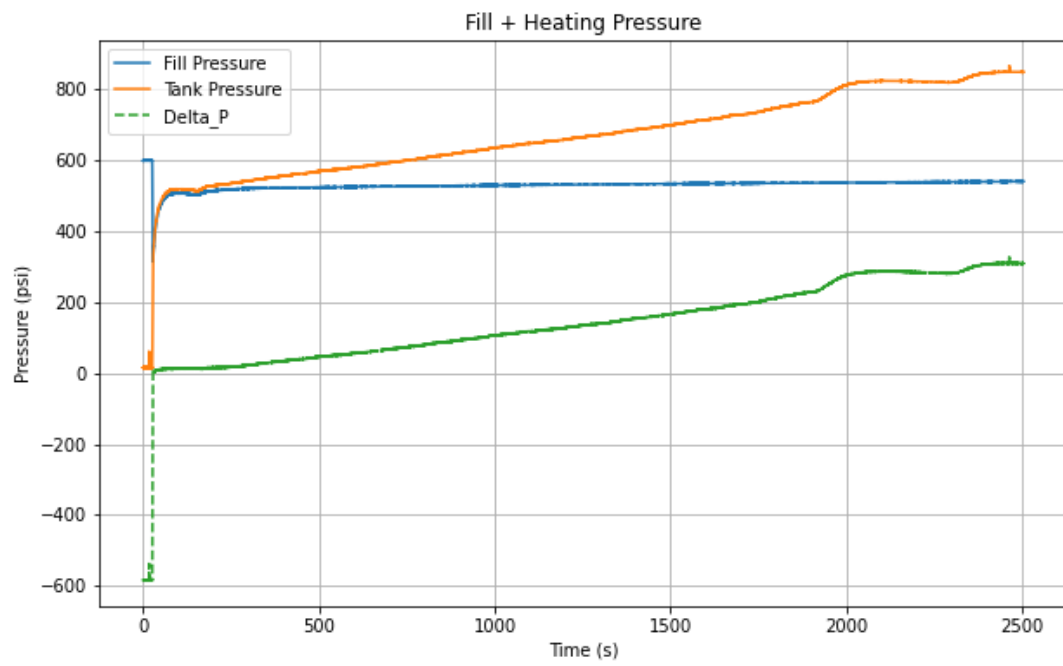
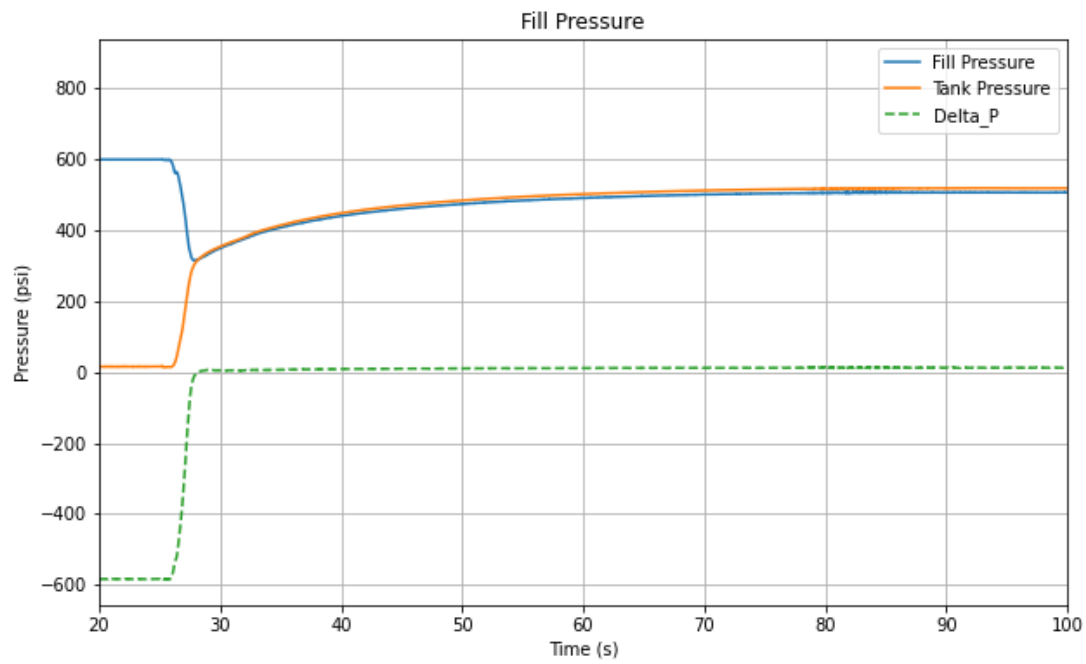
2023/10/21

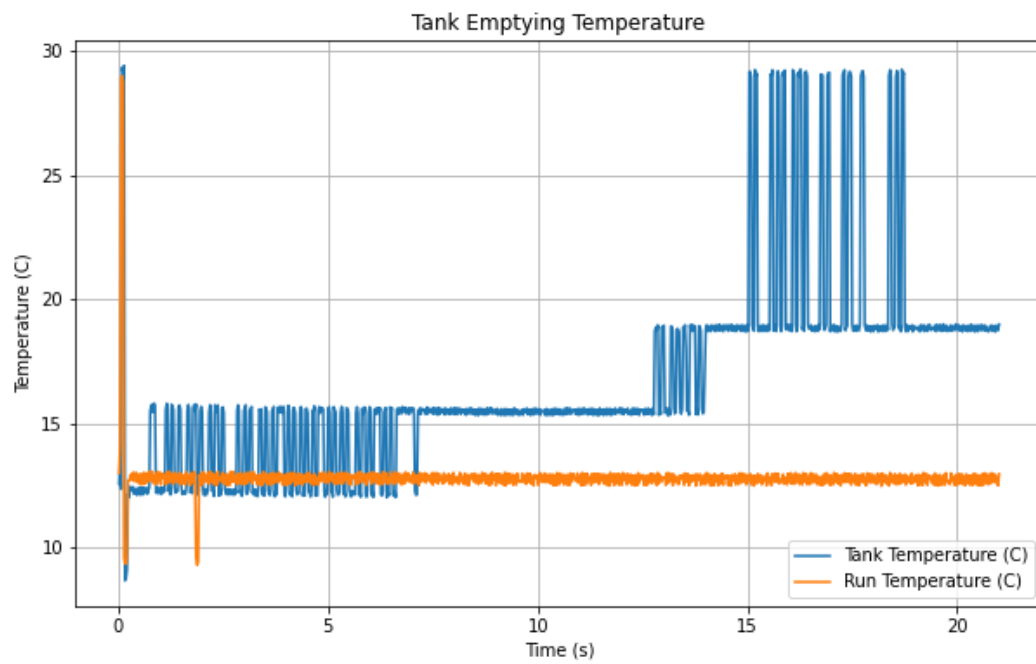
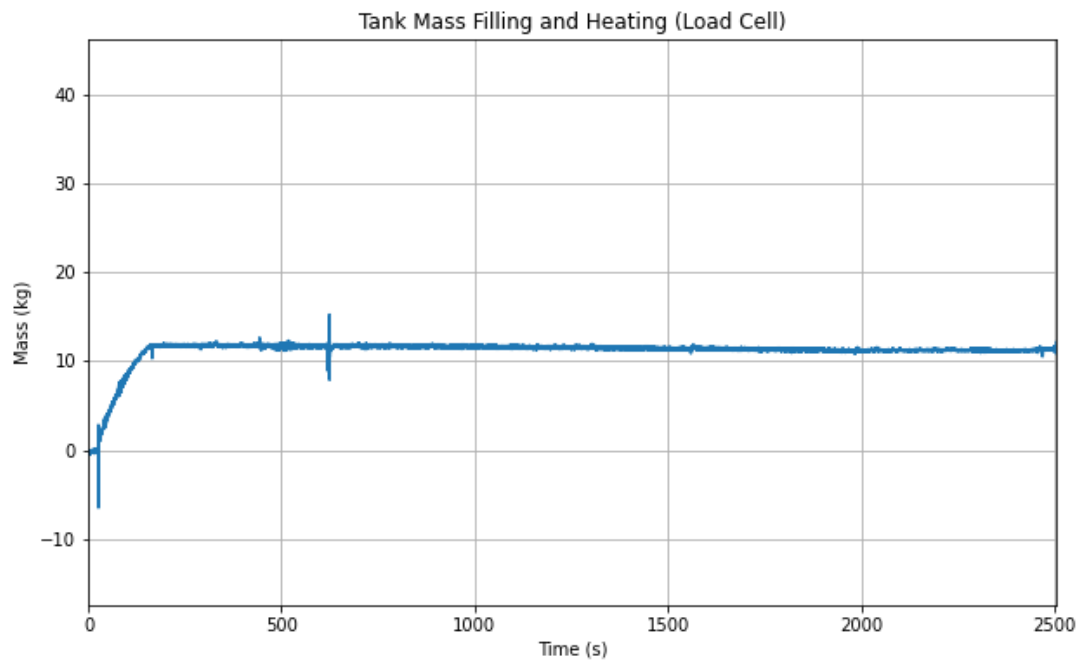
Abstract

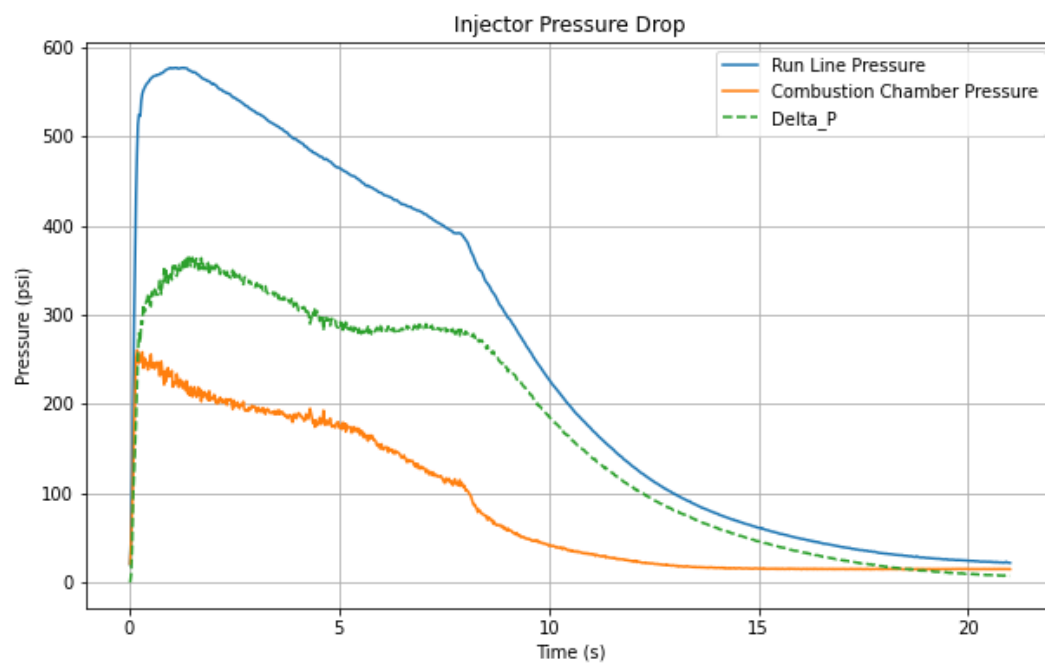
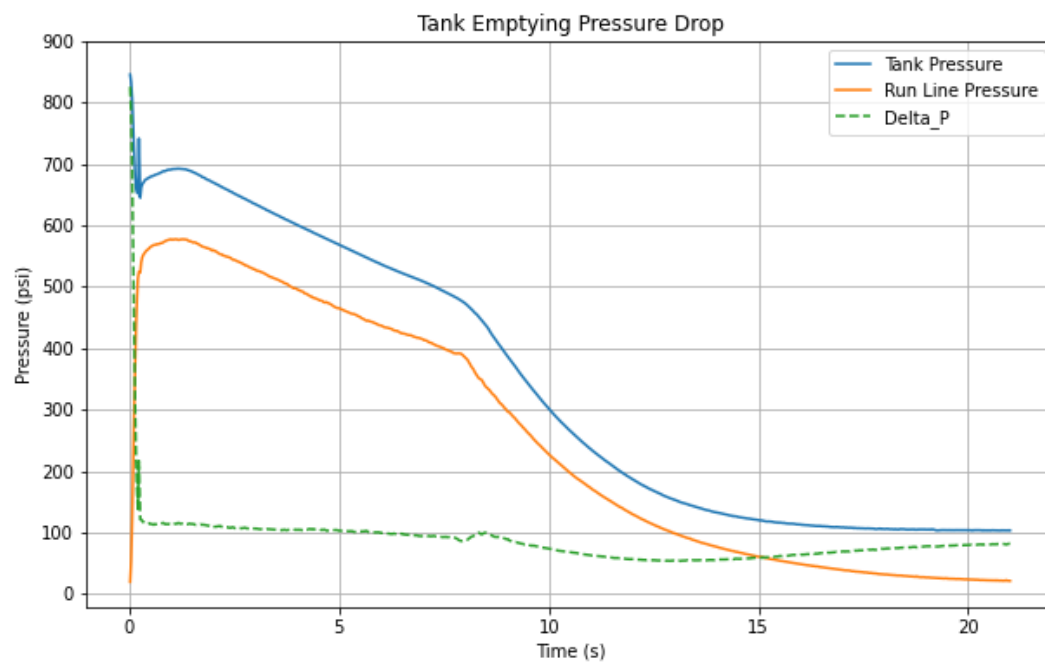
Table 1: Summary Results

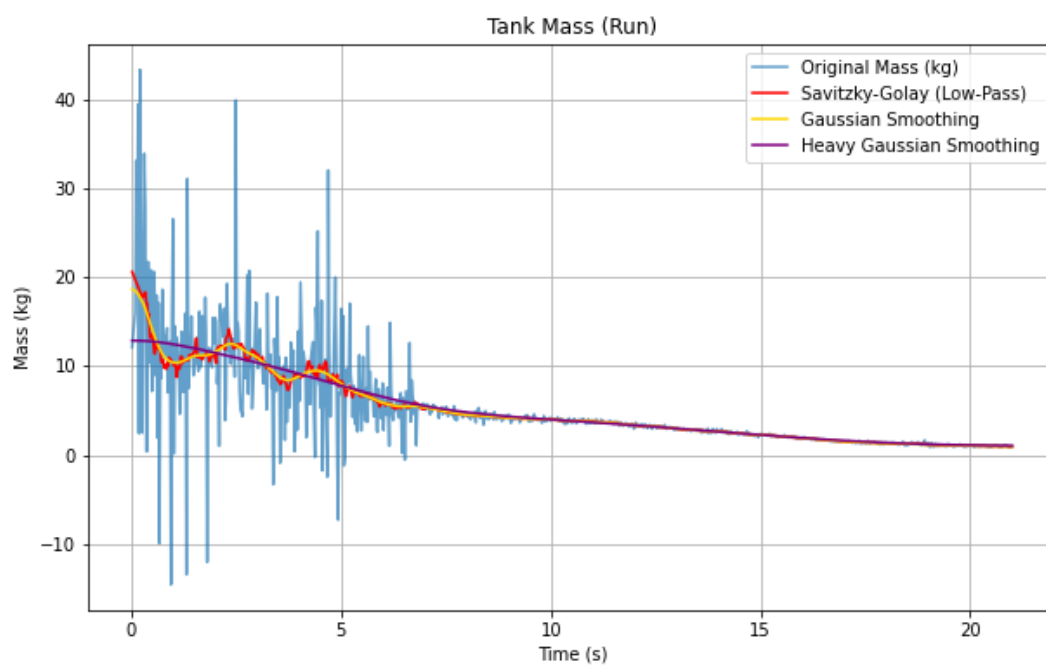
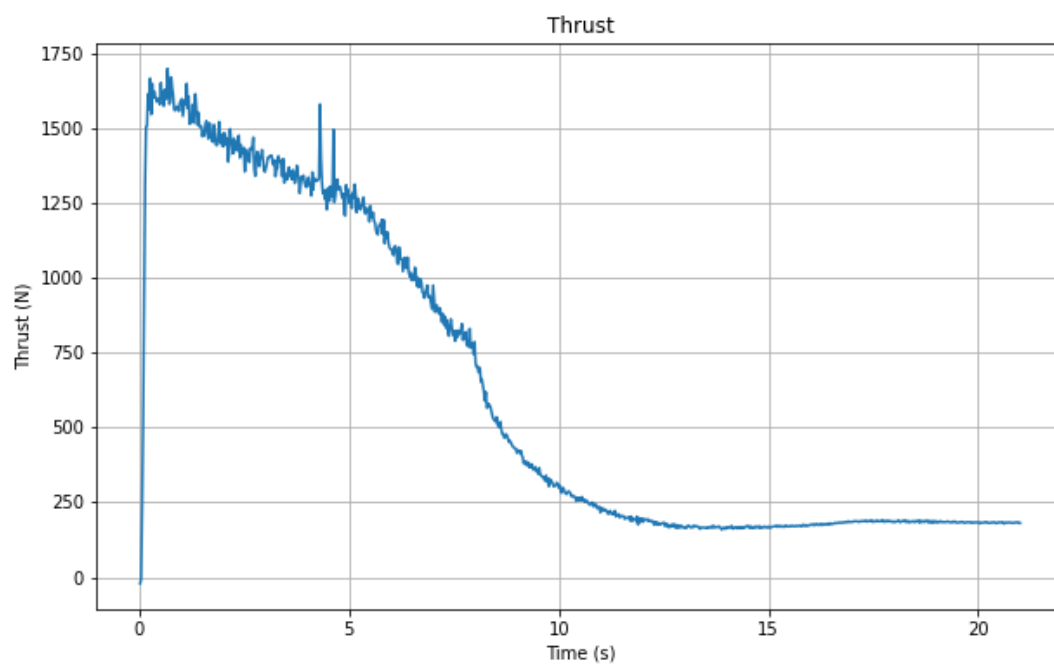
Variable	Value	Unit
Ambient Temperature	15	C
Run Tank Volume	15.3	L
Ullage Factor	10	%
Fuel Mass	2.113	kg
Fill Time	2503	s
Peak Tank Pressure	850	psi
Peak Tank Temperature	19	C
Total Tank Mass (measured)	11.5	kg
Liquid Nitrous Mass (estimated)	11.3	kg
Gaseous Nitrous Mass (estimated)	0.2	kg
Peak Run Pressure	577	psi
Peak CC Pressure	260	psi
Peak Mass Flow Rate (estimated)	1.405	kg/s
Average Mass Flow Rate (estimated)	1.025	kg/s
Burn Time	19	s
Peak Thrust	1699	N
Total Impulse	13055	Ns
Specific Impulse	67.3	s

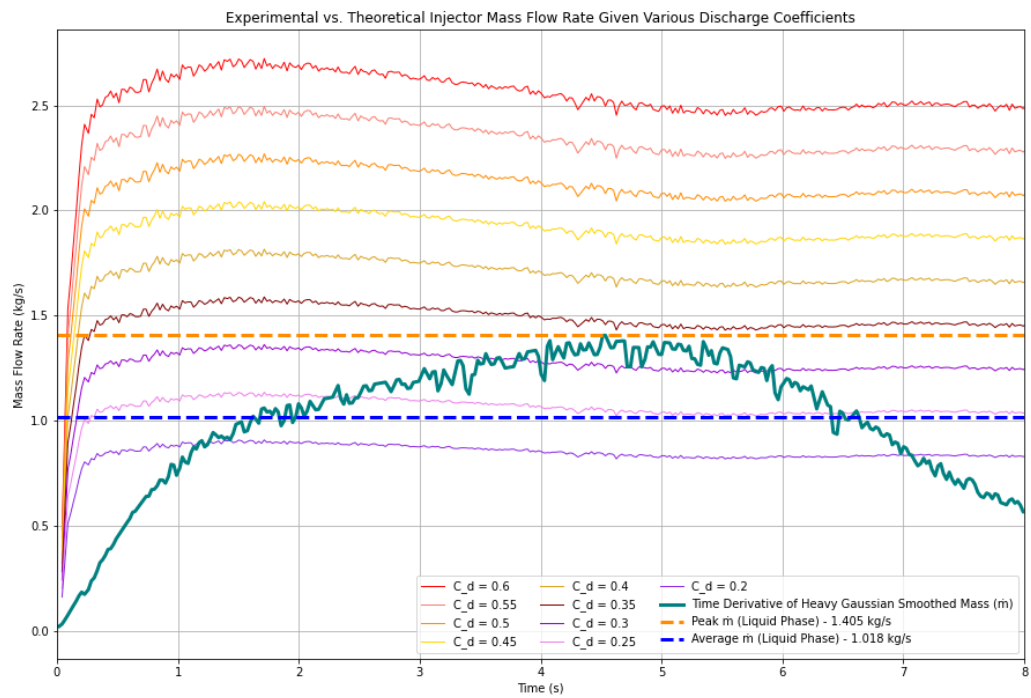
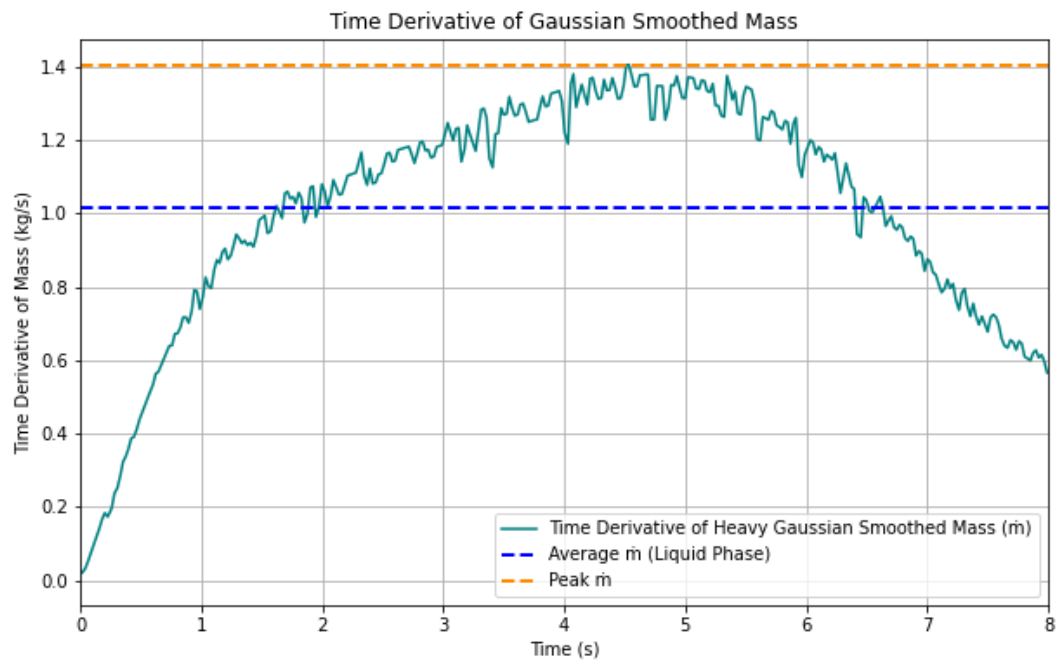
1 Plots

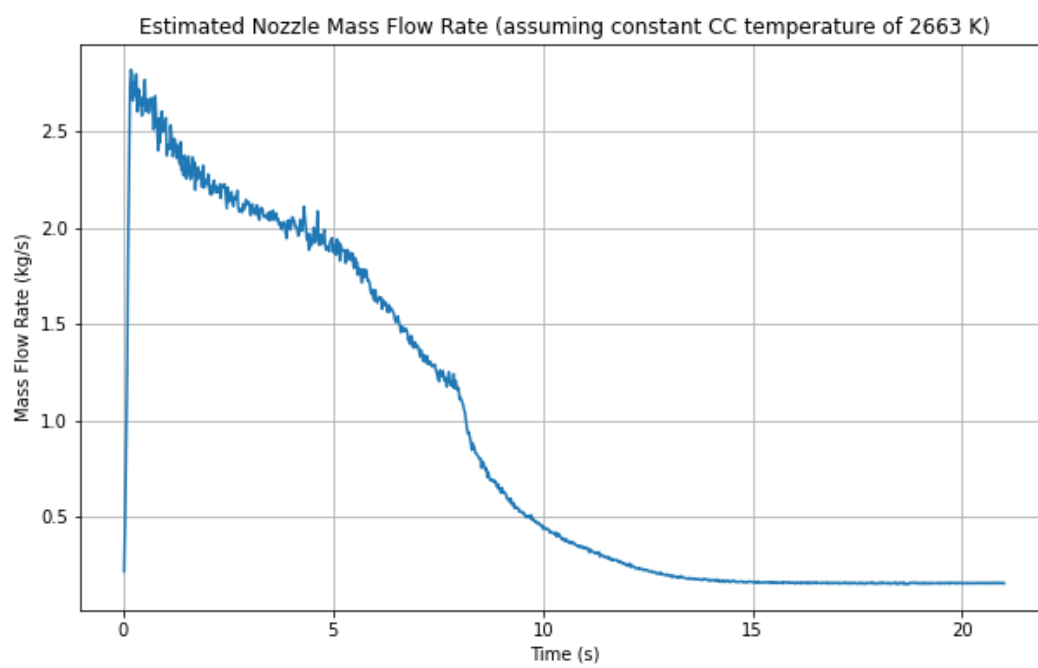
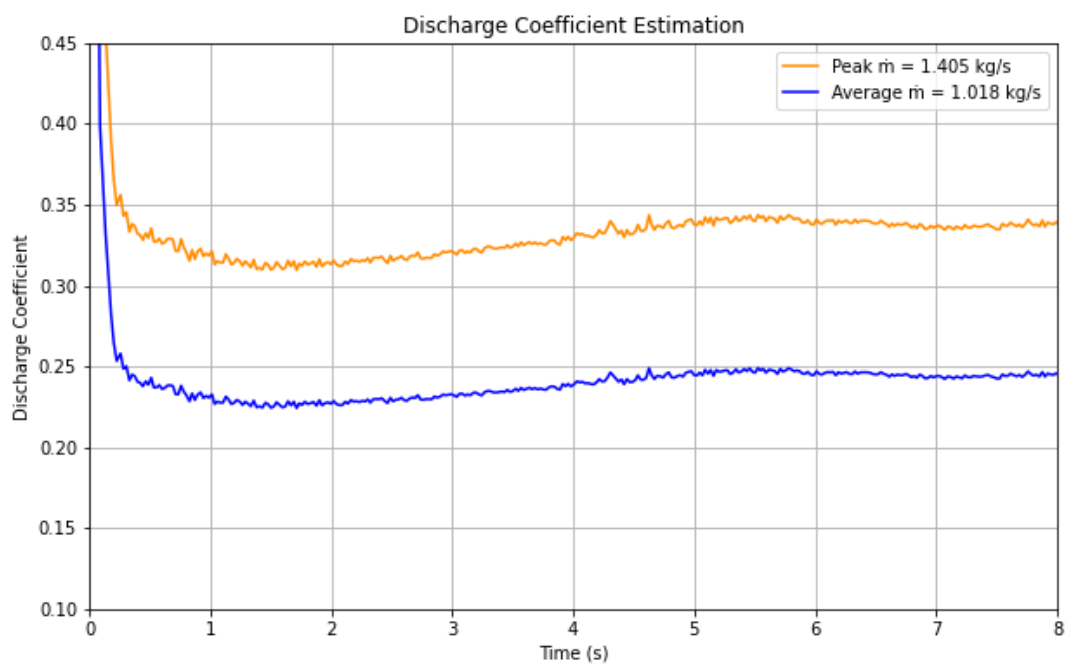


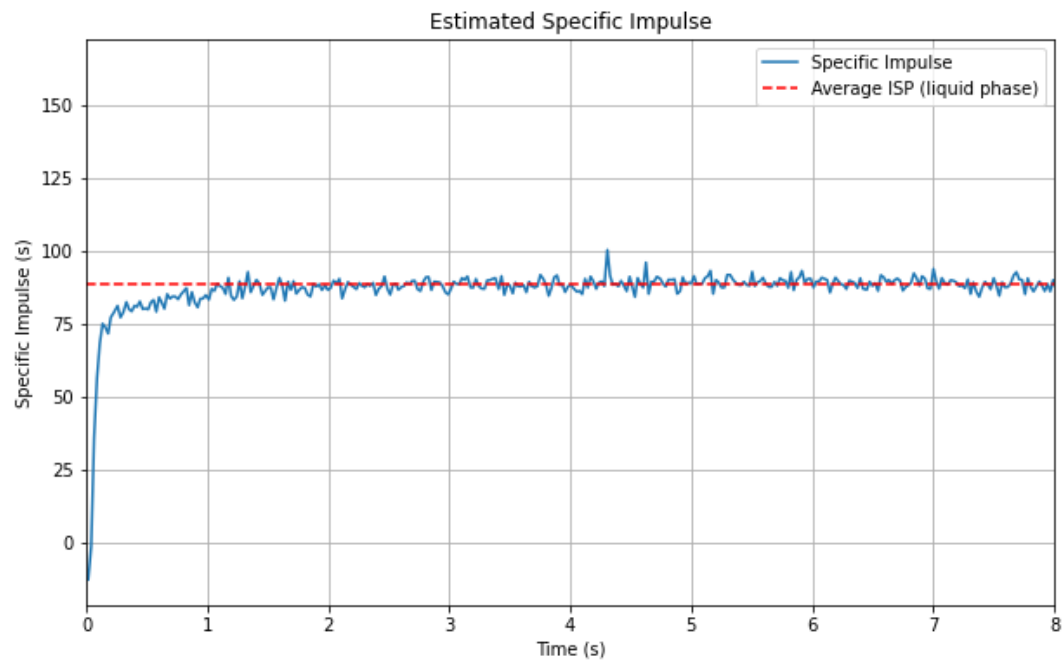












2 Issues Encountered

3 Conclusions