Supporting Material for A Moving Window Formulation for Recursive Bayesian State Estimation of Systems with Irregularly Sampled and Variable Delays in Measurements

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Tennessee Eastman Problem: process parameters

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Table 1: Tennessee Eastman process: steady state values of the process states

No.	State	Description	Steady state (kmol)	No.	State	Description	Steady state (kmol)
1	N_{Ar}	A in reactor	4.722	14	N_{Fs}	F in separator	0.71938
2	N_{Br}	B in reactor	1.9805	15	N_{Gs}	G in separator	20.492
3	N_{Cr}	C in reactor	3.4354	16	N_{Hs}	H in separator	16.195
4	N_{Dr}	D in reactor	0.18231	17	N_{Am}	A in feed zone	51.776
5	N_{Er}	E in reactor	10.32	18	N_{Bm}	B in feed zone	14.327
6	N_{Fr}	F in reactor	1.2572	19	N_{Cm}	C in feed zone	42.455
7	N_{Gr}	G in reactor	66.06	20	N_{Dm}	D in feed zone	11.10
8	N_{Hr}	H in reactor	67.87	21	N_{Em}	E in feed zone	30.156
9	N_{As}	A in separator	28.895	22	N_{Fm}	F in feed zone	2.6668
10	N_{Bs}	B in separator	12.119	23	N_{Gm}	G in feed zone	5.684
11	N_{Cs}	C in separator	21.022	24	N_{Hm}	H in feed zone	2.6807
12	N_{Ds}	D in separator	0.09656	25	N_{Gp}	G in stripper bottom	21.741
13	N_{Es}	E in separator	5.9052	26	N_{Hp}	H in stripper bottom	17.736

Table 2: TE process: PI controller loops and their values

Controlled variable	Process variable	K_c	τ_i
Reactor pressure (P_r)	Purge (F9)	-10.768	1×10^{-3}
Reactor liquid level (V_{Lr})	E feed (F3)	2.016	3.630
Separator liquid level (V_{Ls})	Separator bottoms outflow (F10)	-2.975	0.130
Stripper bottom level (V_{Lp})	Stripper bottoms outflow (F11)	-3.1560	0.100