1 Process and Measurement Noise for Multi-Temperature Extended Kalman Filter

Table 1: Genetic Algorithm parameter output for EKF.

Parameters	Temperature (°C)							
	-20	-10	0	10	25	40		
Q ₁ (10 ⁻⁶)	9.66	2.88	4.15	6.21	8.88	3.28		
Q ₂ (10 ⁻⁶)	7.55	1.13	3.78	3.21	5.61	1.49		
Q ₃ (10 ⁻⁶)	6.78	5.59	5.26	3.45	0.79	0.06		
Q ₄ (10 ⁻⁶)	9.11	3.88	6.32	0.88	3.61	1.12		
R	0.185	0.181	0.114	0.111	0.196	0.145		

2 Process and Measurement Noise for Multi-Temperature Unscented Kalman Filter

Table 2: Genetic Algorithm parameter output for UKF.

Temperature (°C)							
-20	-10	0	10	25	40		
9.80	4.07	5.92	5.78	9.34	4.05		
8.03	2.94	3.83	6.54	4.04	2.57		
1.51	0.61	1.46	7.92	0.34	0.13		
9.13	0.75	0.77	1.01	1.77	2.17		
0.190	0.187	0.130	0.110	0.124	0.108		
	9.80 8.03 1.51 9.13	-20 -10 9.80 4.07 8.03 2.94 1.51 0.61 9.13 0.75	-20 -10 0 9.80 4.07 5.92 8.03 2.94 3.83 1.51 0.61 1.46 9.13 0.75 0.77	-20 -10 0 10 9.80 4.07 5.92 5.78 8.03 2.94 3.83 6.54 1.51 0.61 1.46 7.92 9.13 0.75 0.77 1.01	-20 -10 0 10 25 9.80 4.07 5.92 5.78 9.34 8.03 2.94 3.83 6.54 4.04 1.51 0.61 1.46 7.92 0.34 9.13 0.75 0.77 1.01 1.77		