Proportional									
•									
Column1	Column2								
1	20								
2	24								
3	27.2								
4	29.76								
5	31.808								
6	33.4464								
7	34.75712								
8	35.805696					Column2			
9	36.644557					0010111112			
10	37.315645		50						
11	37.852516		45						
12	38.282013		40						
13	38.62561	;	35						
14	38.900488		30						
15	39.120391	:	25						
16	39.296313		20						
17	39.43705		15						
18	39.54964		10						
19	39.639712								
20	39.71177		5						
21	39.769416		0 0	20	40	60	80	100	120
22	39.815533		0	20	40			100	120
23	39.852426								
24	39.881941								
25	39.905553								
26	39.924442								
27	39.939554								
28	39.951643								
29	39.961314								
30	39.969051								

		1	1			T	
31 3	39.975241						
32 3	39.980193						
33 3	39.984154						
34 3	39.987323						
35 3	39.989859						
36 3	39.991887						
37	39.99351						
38 3	39.994808						
39 3	39.995846						
40 3	39.996677						
41 3	39.997342						
42 3	39.997873						
43 3	39.998299						
44 3	39.998639						
45 3	39.998911						
46 3	39.999129						
47 3	39.999303						
48 3	39.999442						
49 3	39.999554						
50 3	39.999643						
51 3	39.999715						
52 3	39.999772						
53 3	39.999817						
54 3	39.999854						
55 3	39.999883						
56 3	39.999906						
57 3	39.999925						
58	39.99994			 	 		
59 3	39.999952						
60 3	39.999962						
61 3	39.999969						
62 3	39.999975						
63	39.99998						

64 39.99994 65 39.99996 67 39.99992 68 39.99994 69 39.99996 70 39.99996 71 39.99997 72 39.99997 73 39.99998 74 39.99998 75 39.99998 76 39.99999 76 39.99999 77 39.99999 80 40 81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 89 40 99 40							
66 39.99999 67 39.99994 68 39.99994 69 39.99995 69 69 39.99995 69 69 39.99995 69 69 69 39.99996 69 69 69 69 69 69 69 69 69 69 69 6	64	39.999984					
67 39.99992 68 39.99995 69 39.99995 70 39.99996 71 39.99997 72 39.99997 73 39.99998 74 39.99999 75 39.99999 76 39.99999 77 39.99999 78 39.99999 79 39.99999 80 40 81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 88 40 89 40 99 40	65	39.999987					
68 39.99994 69 39.99995 70 39.99996 71 39.99997 72 39.99997 73 39.99998 74 39.99998 75 39.99999 76 39.99999 77 39.99999 78 39.99999 80 40 81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 88 40 88 40 88 80 90 40 91 40 99 40	66	39.99999					
69 39.99995 70 39.99996 71 39.99997 72 39.99999 73 39.99998 74 39.99998 75 39.99999 76 39.99999 77 39.99999 78 39.99999 79 39.99999 80 40 81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 88 40 88 40 88 40 90 40 91 40 91 40 92 40 93 40 94 40	67	39.999992					
70 39.99996 71 39.99997 72 39.99997 73 39.99998 74 39.99998 75 39.99999 76 39.99999 77 39.99999 78 39.99999 80 40 81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 88 40 88 40 89 40 90 40 91 40 92 40 93 40	68	39.999994					
71 39.99997 72 39.99998 73 39.99998 74 39.99999 75 39.99999 76 39.99999 77 39.99999 78 39.99999 80 40 81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40	69	39.999995					
72 39.99998 73 39.99998 74 39.99999 75 39.99999 76 39.99999 77 39.99999 78 39.99999 80 40 81 40 82 40 83 40 83 40 84 40 85 40 86 40 87 40 88 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40	70	39.999996					
73 39.99998 74 39.99998 75 39.99999 76 39.99999 77 39.99999 78 39.99999 80 40 81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	71	39.999997					
74 39.99998	72	39.999997					
75 39.99999 76 39.99999 77 39.99999 78 39.99999 80 40 81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 90 40 91 40 92 40 93 40 94 40 95 40	73	39.999998					
76 39.99999 9 77 39.99999 9 80 40 40 81 40 40 82 40 40 83 40 40 85 40 40 86 40 40 88 40 40 89 40 40 90 40 40 92 40 40 93 40 40 94 40 40 95 40 40	74	39.999998					
77 39.99999 78 39.99999 80 40 81 40 82 40 83 40 84 40 85 40 86 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	75	39.999999					
78 39.999999	76	39.999999					
79 39.999999	77	39.999999					
80 40 81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	78	39.999999					
81 40 82 40 83 40 84 40 85 40 86 40 87 40 88 40 90 40 91 40 92 40 93 40 94 40 95 40	79	39.999999					
82 40 83 40 84 40 85 40 86 40 87 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	80	40					
83 40 84 40 85 40 86 40 87 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	81	40					
84 40 85 40 86 40 87 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	82	40					
85 40 86 40 87 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	83	40					
86 40 87 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	84	40					
87 40 88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	85	40					
88 40 89 40 90 40 91 40 92 40 93 40 94 40 95 40	86	40					
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90 40 91 40 91 40 92 40 93 40 94 40 95 40	88	40					
91 40 92 40 93 40 94 40 95 40	89	40					
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96 40	95	40					
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97	40					
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PI														
Column1	Column2													
1	20													
2	30													
3	42													
4	53.2													
5	61.52													
6	65.872													
7	66.1792													
8	63.18912								Colum	ın2				
9	58.159232			70										
10	52.503475													
11	47.478175		(60	•									
12	43.962299		í	50	• \$									
13	42.357139													
14				40										
15	44.276822			30										
16	46.761648		`											
17	49.39718		:	20										
18	51.626169		<u>.</u>	10										
19	53.084127		_ '	10										
20	53.633667			0										
21	53.346566			0	20)	40	60	80	100	120	140	160	
22	52.447572													
23	51.238863													
24	50.024122													
25	49.047506													
26	48.456711													
27	48.292733													
28	48.503004													
29	48.97062													
30	49.550589													

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31	50.104446						
32	50.526643						
33	50.759071						
34	50.7932						
35	50.661863						
36	50.424421						
37	50.149583						
38	49.899796						
39	49.720007						
40	49.632175						
41	49.635474						
42	49.711018						
43	49.82925						
44	49.957986						
45	50.069377						
46	50.144615						
47	50.175882						
48	50.165719						
49	50.124445						
50	50.066537						
51	50.006903						
52	49.957815						
53	49.926982						
54	49.916919						
55	49.925485						
56	49.94724						
57	49.975197						
58	50.002523						
59	50.023879						
60	50.036188						
61	50.038798						
62	50.033126						
63	50.021963	 					

64	50.008641						
65	49.996254						
66	49.987094						
67	49.982348						
68	49.982081						
69	49.985451						
70	49.991057						
71	49.99733						
72	50.002883						
73	50.006749						
74	50.008491						
75	50.008187						
76	50.006306						
77	50.003541						
78	50.00062						
79	49.998159						
80	49.996559						
81	49.995967						
82	49.9963						
83	49.997306						
84	49.99865						
85	49.999995						
86	50.001072						
87	50.001719						
88	50.001893						
89	50.001654						
90	50.001131						
91	50.000487						
92	49.999874						
93	49.999409						
94	49.999155						
95	49.999121						
96	49.99927						
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97 49.999534 98 49.999839 99 50.000115	
99 50.000115	
100 50 000010	
100 50.000313	
101 50.000409	
102 50.000404	
103 50.000319	
104 50.000187	
105 50.000044	
106 49.999921	
107 49.999839	
108 49.999805	
109 49.999817	
110 49.999863	
111 49.999927	
112 49.999993	
113 50.000048	
114 50.000081	
115 50.000092	
116 50.000082	
117 50.000058	
118 50.000027	
119 49.999997	
120 49.999973	
121 49.99996	
122 49.999957	
123 49.999963	
124 49.999976	
125 49.999991	
126 50.000004	
127 50.000014	
128 50.00002	
129 50.00002	

130	50.000016					
131	50.00001					
132	50.000003					
133	49.999997					
134	49.999992					
135	49.999991					
136	49.999991					
137	49.999993					
138	49.999996					
139	49.999999					
140	50.000002					
141	50.000004					
142	50.000004					
143	50.000004					
144	50.000003					
145	50.000001					
146	50					
147	49.999999					
148	49.999998					
149	49.999998					

PID Tune 1											
Column1	Column2										
1	20										
2	46.2										
3	55.572							Proportiona	al Ir	ntegral	Derivative
4	58.32232								0.6	0.3	0.04
5	57.190619										
6	54.736034										
7	52.386305										
8	50.726328										
9											
10											
11						Column2					
12	49.619161				,	Juluiiiiz					
13		70									
14		60	_								
15			4 m								
16		50		00000000	••••••	***********		00000			
17		40									
18		40									
19		30									
20											
21		20									
22		10									
23											
24		0 -	4	•	00	00	40	50			
25		0	1	U	20	30	40	50	60		
26											
27											
28											
29											
30	50.000157										

31	50.00012					
32	50.000071					
33	50.000031					
34	50.000005					
35	49.999993					
36	49.999989					
37	49.999991					
38	49.999994					
39	49.999997					
40	49.999999					
41	50					
42	50.000001					
43	50.000001					
44	50					
45	50					
46	50					
47	50					
48	50					
49	50					

PID Tune 2									
Column1	Column2								
1	20								
2	48								
3	54								
4	57.4								
5	56.8								
6	54.92						Proportional	Integral	Derivative
7	52.82						0.6	0.3	0.1
8	51.156								
9	50.1								
10	49.5868				С	olumn2			
11	49.4512	70							
12	49.52384								
13	49.67492	60	00						
14	49.825032	50	1						
15	49.937664	50	•	-00000000					
16	50.005166	40							
17	50.03513								
18	50.04033	30							
19	50.032788	20							
20	50.021209								
21	50.010618	10							
22	50.003098	0							
23	49.998853		0	10	20	30	40	50	60
24	49.997172		1			1			
25	49.997091								
26	49.997772								
27	49.998636								
28	49.999373								
29	49.999868								
30	50.00013								

31	50.000219				
32	50.000206				
33	50.000149				
34	50.000086				
35	50.000036				
36	50.000004				
37	49.999988				
38	49.999983				
39	49.999986				
40	49.99999				
41	49.999995				
42	49.999998				
43	50				
44	50.000001				
45	50.000001				
46	50.000001				
47	50.000001				
48	50				
49	50				

PID Tune 3												
Column1	Column2											
1	20											
2	51											
3	50.9											
4	56.81											
5	55.929									Proportional	Integral	Derivative
6	55.1561									0.6	0.3	0.2
7	53.27849											
8	51.764841											
9	50.557137					'		Calum	· · · · ·	•	•	
10	49.845725							Colun	1n2			
11			60]
12	49.445939				Joega							
13	49.5322		50	1	•	000000	90000	••••••	00000000	•••••••		-
14	49.677343											
15	49.820421		40									
16			30									
17	50.003276											
18	50.038865		20									
19	50.04859											
20	50.043076		10									-
21	50.030996											
22	50.018178		0									
23	50.007745			0	1)	20	30) 4	10 50	(60
24	50.000771											
25	49.997059											
26	49.995804											
27	49.996069											
28	49.99705											
29	49.998185											
30	49.999152											

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31	49.999827								
32	50.000207								
33	50.000356								
34	50.000355								
35	50.000278								
36	50.000179								
37	50.00009								
38	50.000026								
39	49.999987								
40	49.99997								
41	49.999968								
42	49.999974								
43	49.999983								
44	49.999991								
45	49.999997								
46	50.000001								
47	50.000002								
48	50.000003								
49	50.000002								

PID Tune 4										
112 14110 1	-									
Column1	Column2									
1	20									
2	57									
3	42.9							Proportional	Integral	Derivative
4	59.83							0.6		
5	51.241									
6	57.6407									
7	51.91289									
8	53.898903									
9	50.438108				(Column2				
10	51.101081	-	70							
11	49.386439									
12	49.835696	(60							
13	49.19913	ļ.	50	1900000	00000000	000000000	00000000			
14	49.619094									
15	49.47874		40							
16	49.803103		30							
17	49.806031		30							
18	49.993967	2	20						_	
19	49.996948		4.0							
20	50.073038		10							
21	50.052319		0							
22	50.067059		0	10	20	30	40	50	60	
23	50.038654									
24	50.032954									
25	50.011706									
26	50.005914									
27	49.99564									
28	49.994632									
29	49.992133									
30	49.994089									

31	49.994863					
32	49.997187					
33	49.99834					
34	49.999768					
35	50.000299					
36	50.00078					
37	50.000758					
38	50.000723					
39	50.000498					
40	50.000334					
41	50.000144					
42	50.000035					
43	49.999949					
44	49.999921					
45	49.99991					
46	49.999926					
47	49.999944					
48	49.999967					
49	49.999984	 				