

Controlador	Índices de Desempenho					
	Mp	Te	ITAE	ITSE	IG	Say
PID	223%	65	29.50733	5.06740	1.69789	0.00171
PID-FT1	4%	25	1.15853	0.04865	0.83093	0.00009
PID-FT2I	3%	25	1.22309	0.04873	0.83060	0.00009

Controlador	Melhoria dos Índices de Desempenho					
	Mp	Te	ITAE	ITSE	IG	Say
PID/PID-FT1						
PID/PID-FT2I						
PID-FT1/PID-FT2I						

Para os controladores ser atingido estes
 no figura 8, observamos que a simples troca de tipo de
 controlador nos proporciona melhor desempenho
 em todos os índices.

Sau
1.5425E-09
6.7441E-10
6.8065E-10

Sax

Indices de desempenho							
Controlador	Mp	Te	ITAE	ITSE	IG	Say	Sax
PID	223%	500	2.92E+02	11.30302	2.811318	0.003119	1.54E-09
PID-FT1	3%	400	1.30E+02	3.939273	1.866544	0.002074	6.45E-10
PID-FT2I	8%	410	1.45E+02	4.500589	1.827059	0.001908	6.02E-10

Indices de desempenho							
Controlador	Mp	Te	ITAE	ITSE	IG	Say	Sax
PID/PID-FT1							
PID/PID-FT2I							
PID-FT1/PID-FT2I							

	1	2	3	4
SNR	24	20	15	12

		Índices de desempenho					
SNR	Controlador	Mp	Te	ITAE	ITSE	IG	Say
24.300	PID	218.4%	490	4.57E+02	16.35973	2.792503	0.003084
	PID-FT1	3.9%	405	3.19E+02	7.304747	1.898412	0.002213
	PID-FT2I	3.6%	405	3.23E+02	7.476361	1.901864	0.002233
20	PID	216.1%	490	5.90E+02	22.84186	2.80409	0.0031
	PID-FT1	3.9%	405	4.25E+02	11.04687	1.901492	0.0022
	PID-FT2I	3.7%	405	4.29E+02	11.17931	1.904699	0.0022
15	PID	211.53%	490	8.70E+02	43.69579	2.868	0.0032
	PID-FT1	4.16%	405	6.47E+02	22.87556	1.908633	0.0022
	PID-FT2I	4.01%	405	6.47E+02	22.88533	1.911184	0.0023
12	PID	204.40%	485	1.32E+03	94.43607	3.063249	0.0034
	PID-FT1	4.65%	405	1.00E+03	51.49416	1.921716	0.0023
	PID-FT2I	4.47%	405	9.96E+02	51.20305	1.922924	0.0023

$$\delta = 2M_p + I_T$$

		Índices de desempenho				
Controlador	Mp	Te	ITAE	ITSE	IG	Say
PID/PID-FT1						
PID/PID-FT2I						
PID-FT1/PID-FT2I						

Podemos observar que a

Sax
1.52E-09
6.80E-10
6.86E-10
1.53E-09
6.83E-10
6.89E-10
1.60E-09
6.90E-10
6.95E-10
1.79E-09
7.04E-10
7.07E-10

Sax

		Índices de desempenho				
SNR	Controlador	Mp	Te	ITAE	ITSE	IG
24.300	PID	218.4%	490	4.57E+02	16.35973	2.792503
	PID-FT1	3.1%	400	3.28E+02	7.704723	1.868959
	PID-FT2I	6.4%	405	3.14E+02	7.030666	1.843786
20	PID	216.1%	490	5.90E+02	22.84186	2.80409
	PID-FT1	3.2%	400	4.42E+02	11.99821	1.870205
	PID-FT2I	3.6%	405	4.21E+02	10.7449	1.84879
15	PID	211.53%	490	8.70E+02	43.69579	2.868
	PID-FT1	5.18%	455	6.75E+02	25.35347	1.878245
	PID-FT2I	7.85%	405	6.43E+02	22.43876	1.854787
12	PID	204.40%	485	1.32E+03	94.43607	3.063249
	PID-FT1	9.68%	455	1.05E+03	57.66553	1.869753
	PID-FT2I	6.91%	405	9.96E+02	50.80026	1.868169

		Índices de desempenho			
Controlador	Mp	Te	ITAE	ITSE	IG
PID/PID-FT1					
PID/PID-FT2I					
PID-FT1/PID-FT2I					

Say	Sax
0.003084	1.52E-09
0.002098	6.54E-10
0.00197	6.14E-10
0.003096	1.53E-09
0.002104	6.59E-10
0.00199	6.18E-10
0.0032	1.60E-09
0.0021	6.73E-10
0.002	6.22E-10
0.003441	1.79E-09
0.002074	6.70E-10
0.002026	6.32E-10

Say	Sax