

Anexo D.

Tablas Resultados Parametrización Motores DC.



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ANEXO D.

A continuación se presentan los resultados de las pruebas experimentales para encontrar los parámetros de los motores a y b.

RESULTADOS PARAMETRIZACIÓN MOTOR A.

Rpm	corriente mA	Radianes por segundo sin pesas	corriente Amperios sin peso	Constante electromotriz Sin peso	Simulink grados/seg	grados /seg	Constante Tiempo Eléctrica
4.6	12.7	0.481712	0.0127	0.465859269	30.5	27.6020976	0.002361905
14.7	12.5	1.539384	0.0125	0.473403647	53.65	88.2067032	
23.2	12.9	2.429504	0.0129	0.502188924	107.3	139.2105792	
31.3	12.7	3.277736	0.0127	0.526097892	160.9	187.8142728	
39.7	13.6	4.157384	0.0136	0.530352741	268.2	238.2181032	
52.2	14.6	5.466384	0.0146	0.49085099	321.8	313.2238032	
59.4	14.8	6.220368	0.0148	0.511037289	375.5	356.4270864	
64.52	15.4	6.7565344	0.0154	0.542559215	429.1	387.1494211	
75.5	16.1	7.90636	0.0161	0.524973566	482.7	453.034428	
81	16.8	8.48232	0.0168	0.546482566	536.4	486.036936	
92	17.1	9.63424	0.0171	0.532364774	590	552.041952	
100	17.8	10.472	0.0178	0.536071429	643.3	600.0456	
119.6	17.8	12.524512	0.0178	0.488141973	697.2	717.6545376	
123	18.1	12.88056	0.0181	0.512961393	750.9	738.056088	

Momento Inercia Jt	Torque friccion Tf	Torque Mecanico Tm	Constante Friccion Coulomb
1.51595E-05	0.0054891	0.0065151	0.002129903
	0.0054891	0.0064125	0.00059985
	0.0054891	0.0066177	0.000464539
	0.0054891	0.0065151	0.000313021
	0.0054891	0.0069768	0.000357845
	0.0054891	0.0074898	0.000366001
	0.0054891	0.0075924	0.000338131
	0.0054891	0.0079002	0.000356855
	0.0054891	0.0082593	0.000350376
	0.0054891	0.0086184	0.00036892
	0.0054891	0.0087723	0.000340785
	0.0054891	0.0091314	0.000347813
	0.0054891	0.0091314	0.000290814
	0.0054891	0.0092853	0.000294723

Simulink Grados/seg	Grados /seg	Error.
30.5	27.6020976	-10.49884846
53.65	88.2067032	39.17695815
107.3	139.2105792	22.92252455
160.9	187.8142728	14.33025957
268.2	238.2181032	-12.58590191
321.8	313.2238032	-2.738041206
375.5	356.4270864	-5.351140339
429.1	387.1494211	-10.83575916
482.7	453.034428	-6.548193728
536.4	486.036936	-10.36198286
590	552.041952	-6.8759354
643.3	600.0456	-7.208518819
697.2	717.6545376	2.85019275
750.9	738.056088	-1.740235222

RESULTADOS PARAMETRIZACIÓN MOTOR B.

Voltaje	Rpm	corriente mA	Radianes por segundo sin pesas	corriente Amperios sin peso	Constante electromotriz Sin peso	simulink	Grados/seg	Constante Tiempo Eléctrica
0.5	15.7	19.2	1.644104	0.0192	0.187336081	134.2	94.2	0.002361905
1	40.11	19.2	4.2003192	0.0192	0.192366333	268.5	240.66	
1.5	60	20.3	6.2832	0.0203	0.206423478	402.9	360	
2	86	21.5	9.00592	0.0215	0.19820296	526.9	516	
2.5	104	23.2	10.89088	0.0232	0.208247635	652.2	624	
3	124	24.1	12.98528	0.0241	0.212471352	760.2	744	
3.5	147	26.5	15.39384	0.0265	0.210148995	824	882	
4	175	27	18.326	0.027	0.20353596	1039.6	1050	
4.5	187	27.6	19.58264	0.0276	0.215701254	1074	1122	
5	209	29.6	21.88648	0.0296	0.214927206	1208	1254	
5.5	230	31.3	24.0856	0.0313	0.215356894	1342	1380	
6	253	30.5	26.49416	0.0305	0.214953031	1477	1518	
6.5	280	31.9	29.3216	0.0319	0.210800229	1611	1680	
7	300	33.8	31.416	0.0338	0.21205755	1765	1800	

Momento inercia Jt	Torque friccion Tf	Torque Mecanico	Constante Friccion Coulomb
5.45761E-06	0.00350337	0.00398016	0.00029
	0.00350337	0.00398016	0.000113513
	0.00350337	0.00420819	0.000112175
	0.00350337	0.00445695	0.000105884
	0.00350337	0.00480936	0.000119916
	0.00350337	0.00499593	0.000114942
	0.00350337	0.00549345	0.000129278
	0.00350337	0.0055971	0.000114249
	0.00350337	0.00572148	0.000113269
	0.00350337	0.00613608	0.000120289
	0.00350337	0.00648849	0.000123938
	0.00350337	0.00632265	0.000106411
	0.00350337	0.00661287	0.000106048
	0.00350337	0.00700674	0.000111515

Voltaje	simulink. Grados/seg	Grados/seg	error
0.5	134.2	94.2	-29.80625931
1	268.5	240.66	-10.36871508
1.5	402.9	360	-10.64780343
2	526.9	516	-2.068703739
2.5	652.2	624	-4.323827047
3	760.2	744	-2.131018153
3.5	824	882	7.038834951
4	1039.6	1050	1.000384763
4.5	1074	1122	4.469273743
5	1208	1254	3.80794702
5.5	1342	1380	2.831594635
6	1477	1518	2.775897089
6.5	1611	1680	4.283054004
7	1765	1800	1.983002833