A
Tabelas

A.1
Modelo $SARIMA$ ajustado por variáveis binárias ($DASARIMA$)

Tabela A.1: MAPE total - *DASARIMA*

hora	total							1999							2000						
	passos à frente							passos à frente							passos à frente						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	4.23	5.35	6.09	6.27	6.28	6.14	5.21	3.93	4.93	5.63	5.84	5.83	5.63	4.72	4.53	5.77	6.55	6.71	6.73	6.65	5.70
2	4.19	5.26	5.90	6.03	5.99	5.95	5.16	3.85	4.79	5.37	5.50	5.45	5.39	4.66	4.53	5.73	6.42	6.55	6.54	6.50	5.65
3	4.10	5.12	5.79	5.90	5.82	5.77	4.99	3.77	4.65	5.30	5.43	5.28	5.21	4.49	4.44	5.58	6.27	6.36	6.35	6.33	5.48
4	4.04	4.97	5.68	5.80	5.77	5.65	4.83	3.72	4.65	5.31	5.46	5.38	5.23	4.43	4.35	5.30	6.05	6.15	6.15	6.06	5.24
5	3.85	4.66	5.42	5.56	5.57	5.38	4.59	3.47	4.24	5.02	5.21	5.18	4.89	4.08	4.24	5.07	5.82	5.92	5.97	5.87	5.11
6	3.74	4.74	5.77	6.21	6.21	5.79	4.75	3.34	4.38	5.34	5.93	5.97	5.42	4.36	4.14	5.10	6.21	6.48	6.46	6.16	5.14
7	4.08	6.59	8.47	9.12	9.18	8.57	6.45	3.69	6.26	8.26	9.13	9.20	8.42	6.32	4.47	6.93	8.68	9.12	9.16	8.72	6.57
8	4.39	8.76	11.23	11.94	12.06	11.48	8.50	4.09	8.43	11.04	11.80	11.99	11.38	8.38	4.70	9.08	11.41	12.08	12.13	11.58	8.61
9	4.78	10.51	13.33	14.02	14.16	13.74	10.15	4.63	10.33	13.18	13.76	13.98	13.62	10.05	4.92	10.69	13.48	14.28	14.33	13.86	10.25
10	5.08	11.70	14.72	15.35	15.46	15.18	11.27	4.91	11.38	14.42	14.89	15.07	14.84	11.05	5.24	12.01	15.02	15.80	15.85	15.52	11.48
11	5.17	12.25	15.65	16.15	16.23	16.05	11.70	4.95	11.81	15.19	15.48	15.67	15.57	11.40	5.39	12.69	16.11	16.81	16.79	16.53	11.99
12	5.31	12.42	16.04	16.47	16.53	16.40	11.84	5.02	12.06	15.61	15.81	15.93	15.96	11.58	5.60	12.78	16.47	17.14	17.12	16.84	12.10
13	5.22	12.12	15.79	16.29	16.33	16.00	11.45	5.04	11.69	15.32	15.64	15.72	15.50	11.19	5.40	12.56	16.27	16.94	16.93	16.49	11.71
14	5.33	12.43	16.36	16.90	16.90	16.56	11.78	5.10	12.01	15.91	16.14	16.20	16.04	11.45	5.55	12.85	16.80	17.65	17.60	17.09	12.11
15	5.45	12.87	17.24	17.74	17.80	17.39	12.10	5.16	12.45	16.78	17.08	17.16	16.89	11.79	5.74	13.29	17.70	18.40	18.45	17.89	12.41
16	5.44	12.78	17.35	17.90	17.95	17.42	11.99	5.11	12.40	16.92	17.33	17.34	16.93	11.70	5.77	13.17	17.77	18.47	18.57	17.90	12.29
17	5.10	11.88	16.40	16.92	17.01	16.37	11.11	4.82	11.57	16.16	16.57	16.64	16.11	10.97	5.39	12.19	16.65	17.26	17.39	16.63	11.25
18	4.53	9.11	12.07	12.56	12.62	12.14	8.66	4.27	8.97	11.95	12.46	12.56	12.19	8.65	4.79	9.24	12.18	12.66	12.68	12.09	8.67
19	3.79	6.23	7.68	8.07	8.07	7.84	6.15	3.54	6.04	7.55	8.02	8.01	7.89	6.12	4.03	6.43	7.81	8.13	8.14	7.80	6.18
20	3.27	5.03	5.69	5.96	5.99	5.78	4.93	3.07	4.90	5.63	5.98	5.94	5.77	4.88	3.47	5.15	5.74	5.95	6.05	5.80	4.99
21	3.01	4.68	5.56	5.84	5.89	5.56	4.49	2.85	4.47	5.44	5.84	5.82	5.44	4.42	3.17	4.89	5.67	5.84	5.95	5.69	4.56
22	3.22	5.08	6.41	6.82	6.80	6.33	4.84	3.08	4.85	6.21	6.73	6.70	6.09	4.76	3.36	5.30	6.61	6.92	6.90	6.56	4.92
23	4.09	5.65	6.95	7.36	7.29	6.82	5.39	4.19	5.66	6.96	7.43	7.33	6.85	5.47	3.99	5.64	6.95	7.28	7.24	6.79	5.30
24	4.96	6.19	7.17	7.51	7.46	7.12	6.01	5.42	6.60	7.57	7.93	7.95	7.54	6.43	4.50	5.79	6.78	7.09	6.98	6.70	5.59
min	3.01	4.66	5.42	5.56	5.57	5.38	4.49	2.85	4.24	5.02	5.21	5.18	4.89	4.08	3.17	4.89	5.67	5.84	5.95	5.69	4.56
med	4.43	8.18	10.37	10.78	10.81	10.48	7.85	4.21	7.90	10.09	10.48	10.51	10.20	7.64	4.65	8.47	10.64	11.08	11.10	10.75	8.05
max	5.45	12.87	17.35	17.90	17.95	17.42	12.10	5.42	12.45	16.92	17.33	17.34	16.93	11.79	5.77	13.29	17.77	18.47	18.57	17.90	12.41

Tabela A.2: MAPE por mês modelo *DASARIMA*

mês	total							1999							2000						
	passos à frente							passos à frente							passos à frente						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
janeiro	5.41	9.38	12.86	13.68	13.55	12.67	9.19	5.62	9.31	12.96	13.43	12.62	11.80	8.71	5.20	9.45	12.76	13.94	14.47	13.54	9.67
fevereiro	4.52	8.91	11.66	12.04	12.08	11.34	7.95	4.65	8.38	11.01	11.33	11.46	10.75	7.51	4.38	9.42	12.30	12.72	12.67	11.91	8.37
março	4.73	8.53	10.81	11.02	11.10	10.84	8.26	4.76	8.33	10.59	10.84	11.13	11.25	8.69	4.69	8.72	11.03	11.20	11.07	10.43	7.83
abril	4.97	8.77	10.80	11.79	11.82	11.10	8.22	5.50	9.44	12.20	12.47	12.29	11.76	8.57	4.44	8.10	9.40	11.12	11.35	10.44	7.86
maio	3.43	7.69	10.26	10.88	10.93	10.19	6.93	2.82	7.74	10.32	10.66	11.10	10.85	7.17	4.05	7.64	10.20	11.09	10.76	9.54	6.70
junho	3.17	6.99	8.48	8.44	8.69	8.68	6.42	2.99	6.73	7.99	8.20	8.59	8.46	6.15	3.35	7.26	8.98	8.67	8.80	8.90	6.69
julho	2.85	6.64	8.63	8.73	8.48	8.36	6.24	2.61	6.09	8.09	8.08	7.89	8.04	6.01	3.09	7.19	9.16	9.38	9.06	8.67	6.47
agosto	2.80	6.72	9.04	9.83	9.88	9.46	6.66	2.21	6.53	8.70	9.15	9.20	8.97	6.10	3.40	6.91	9.39	10.52	10.56	9.95	7.23
setembro	4.74	8.00	9.86	10.10	10.33	9.85	8.04	4.42	7.77	9.37	10.31	10.67	10.04	8.12	5.07	8.23	10.34	9.89	9.98	9.66	7.97
outubro	4.60	8.66	10.40	10.76	11.11	10.85	8.36	4.04	8.71	10.20	10.19	9.90	8.99	7.03	5.17	8.61	10.60	11.33	12.31	12.70	9.68
novembro	6.65	10.05	11.25	10.78	10.27	11.22	9.21	6.44	9.49	10.66	10.70	10.77	10.98	8.93	6.86	10.61	11.84	10.86	9.76	11.45	9.49
dezembro	5.38	7.93	10.40	11.34	11.51	11.20	8.70	4.59	6.33	9.04	10.43	10.61	10.57	8.71	6.17	9.54	11.76	12.25	12.40	11.82	8.69
min	2.80	6.64	8.48	8.44	8.48	8.36	6.24	2.21	6.09	7.99	8.08	7.89	8.04	6.01	3.09	6.91	8.98	8.67	8.80	8.67	6.47
med	4.44	8.19	10.37	10.78	10.81	10.48	7.85	4.22	7.91	10.09	10.48	10.52	10.21	7.64	4.66	8.47	10.65	11.08	11.10	10.75	8.06
max	6.65	10.05	12.86	13.68	13.55	12.67	9.21	6.44	9.49	12.96	13.43	12.62	11.80	8.93	6.86	10.61	12.76	13.94	14.47	13.54	9.68

Tabela A.3: MAPE por dia da semana - modelo *DASARIMA*

dia da semana	total							1999							2000						
	passos à frente							passos à frente							passos à frente						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
segunda	3.87	18.22	19.33	20.28	19.43	19.30	9.14	3.61	18.14	18.59	19.96	19.84	19.15	9.02	4.15	18.31	20.10	20.61	19.01	19.46	9.27
terça	3.80	4.41	4.52	4.79	4.84	10.15	15.06	3.19	4.06	4.04	4.10	4.36	9.94	14.86	4.41	4.75	5.01	5.49	5.33	10.36	15.25
quarta	3.04	3.56	4.05	4.22	9.56	15.13	3.69	2.63	3.03	3.41	3.88	9.05	14.72	3.36	3.42	4.05	4.64	4.54	10.04	15.52	4.01
quinta	3.51	4.19	4.46	10.09	15.72	4.78	3.61	3.59	3.96	4.60	9.48	14.92	4.36	3.41	3.42	4.42	4.33	10.70	16.51	5.20	3.81
sexta	4.14	4.56	10.47	16.23	5.28	4.59	4.05	4.37	4.83	10.42	16.20	5.16	4.61	4.17	3.90	4.27	10.52	16.26	5.40	4.56	3.92
sábado	3.76	9.64	15.52	5.18	4.63	4.26	3.67	3.68	9.96	15.87	4.86	4.43	3.91	3.50	3.84	9.32	15.17	5.49	4.83	4.60	3.83
domingo	3.92	8.26	11.00	11.28	11.94	11.37	11.49	4.09	8.02	11.39	11.04	12.05	12.09	11.82	3.77	8.48	10.65	11.49	11.84	10.72	11.18
min	3.04	3.56	4.05	4.22	4.63	4.26	3.61	2.63	3.03	3.41	3.88	4.36	3.91	3.36	3.42	4.05	4.33	4.54	4.83	4.56	3.81
med	3.72	7.55	9.91	10.29	10.20	9.94	7.24	3.59	7.43	9.76	9.93	9.97	9.83	7.16	3.84	7.66	10.06	10.65	10.42	10.06	7.32
max	4.14	18.22	19.33	20.28	19.43	19.30	15.06	4.37	18.14	18.59	19.96	19.84	19.15	14.86	4.41	18.31	20.10	20.61	19.01	19.46	15.25

A.2
Modelo Auto-regressivo Sazonal em dois níveis ($TLSAR$)

Tabela A.4: MAPE total - *TLSAR*

hora	total							1999							2000						
	passos à frente							passos à frente							passos à frente						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	4.05	5.85	6.59	6.89	7.09	7.19	7.26	3.76	5.12	5.67	5.82	5.95	6.07	6.18	4.34	6.58	7.51	7.95	8.22	8.30	8.33
2	4.07	5.93	6.72	7.07	7.28	7.40	7.47	3.68	5.17	5.74	5.93	6.06	6.19	6.33	4.45	6.70	7.70	8.20	8.50	8.60	8.62
3	3.95	5.81	6.67	7.04	7.23	7.35	7.44	3.60	5.06	5.67	5.89	5.96	6.10	6.25	4.30	6.56	7.67	8.20	8.50	8.60	8.63
4	3.91	5.64	6.51	6.87	7.09	7.21	7.30	3.63	4.93	5.54	5.76	5.87	6.01	6.15	4.18	6.34	7.49	7.98	8.30	8.40	8.45
5	3.69	5.37	6.19	6.54	6.75	6.88	6.96	3.38	4.55	5.14	5.37	5.47	5.62	5.73	3.99	6.18	7.24	7.72	8.03	8.14	8.18
6	3.41	4.91	5.62	5.95	6.12	6.24	6.33	3.08	4.15	4.63	4.84	4.93	5.07	5.17	3.74	5.66	6.61	7.06	7.31	7.41	7.48
7	3.19	4.33	4.84	5.10	5.24	5.33	5.39	2.83	3.60	3.94	4.06	4.13	4.20	4.27	3.55	5.06	5.74	6.13	6.35	6.45	6.51
8	2.99	3.92	4.34	4.51	4.62	4.69	4.75	2.69	3.28	3.53	3.61	3.67	3.74	3.80	3.29	4.55	5.15	5.42	5.58	5.64	5.69
9	2.99	3.82	4.14	4.25	4.33	4.37	4.39	2.74	3.29	3.47	3.51	3.56	3.59	3.60	3.23	4.36	4.82	4.99	5.11	5.15	5.17
10	2.99	3.74	4.01	4.06	4.10	4.12	4.13	2.76	3.28	3.46	3.46	3.49	3.50	3.51	3.21	4.20	4.56	4.65	4.70	4.73	4.75
11	2.98	3.70	3.94	3.98	4.01	4.03	4.03	2.76	3.28	3.45	3.44	3.44	3.46	3.47	3.20	4.12	4.44	4.52	4.57	4.59	4.60
12	2.99	3.64	3.86	3.90	3.92	3.93	3.94	2.71	3.21	3.32	3.33	3.33	3.33	3.34	3.27	4.06	4.41	4.47	4.51	4.52	4.53
13	3.07	3.78	4.00	4.05	4.06	4.07	4.08	2.86	3.38	3.52	3.55	3.55	3.56	3.56	3.28	4.17	4.48	4.54	4.57	4.59	4.59
14	3.32	4.11	4.36	4.41	4.42	4.42	4.42	3.11	3.71	3.88	3.92	3.90	3.90	3.89	3.52	4.50	4.83	4.90	4.93	4.93	4.94
15	3.42	4.26	4.55	4.62	4.63	4.62	4.63	3.23	3.84	4.02	4.07	4.08	4.07	4.07	3.61	4.68	5.08	5.15	5.17	5.18	5.18
16	3.39	4.21	4.54	4.61	4.63	4.64	4.64	3.18	3.70	3.97	3.99	4.01	4.01	4.02	3.61	4.72	5.11	5.22	5.26	5.26	5.26
17	3.27	3.96	4.21	4.26	4.29	4.29	4.30	3.04	3.50	3.72	3.76	3.78	3.79	3.80	3.50	4.42	4.71	4.75	4.79	4.78	4.79
18	3.05	3.64	3.88	3.96	4.00	4.01	4.02	2.81	3.25	3.43	3.51	3.53	3.54	3.55	3.29	4.04	4.32	4.42	4.47	4.48	4.48
19	2.94	3.52	3.77	3.86	3.91	3.93	3.95	2.73	3.27	3.41	3.46	3.51	3.54	3.56	3.15	3.77	4.12	4.26	4.31	4.32	4.33
20	2.59	3.12	3.28	3.32	3.39	3.41	3.44	2.33	2.76	2.80	2.82	2.87	2.89	2.93	2.85	3.48	3.75	3.82	3.91	3.93	3.95
21	2.51	3.18	3.41	3.51	3.55	3.59	3.62	2.31	2.78	2.89	2.94	2.92	2.95	3.02	2.72	3.58	3.93	4.09	4.18	4.22	4.23
22	2.80	3.70	4.10	4.23	4.28	4.33	4.36	2.56	3.18	3.45	3.46	3.44	3.47	3.53	3.04	4.22	4.76	5.00	5.13	5.18	5.19
23	3.59	4.80	5.28	5.46	5.54	5.58	5.63	3.50	4.35	4.68	4.69	4.67	4.73	4.82	3.68	5.26	5.88	6.21	6.39	6.43	6.43
24	4.48	5.97	6.62	6.87	6.98	7.05	7.13	4.71	5.85	6.28	6.36	6.35	6.43	6.56	4.26	6.08	6.96	7.38	7.62	7.67	7.70
min	2.51	3.12	3.28	3.32	3.39	3.41	3.44	2.31	2.76	2.80	2.82	2.87	2.89	2.93	2.72	3.48	3.75	3.82	3.91	3.93	3.95
med	3.32	4.37	4.81	4.97	5.06	5.11	5.15	3.08	3.85	4.15	4.23	4.27	4.32	4.38	3.55	4.89	5.47	5.71	5.85	5.90	5.92
max	4.48	5.97	6.72	7.07	7.28	7.40	7.47	4.71	5.85	6.28	6.36	6.35	6.43	6.56	4.45	6.70	7.70	8.20	8.50	8.60	8.63

Tabela A.5: MAPE por mês modelo *TLSAR*

| mês | total | | | | | | | 1999 | | | | | | | 2000 | | | | | | |
| | passos à frente | | | | | | | passos à frente | | | | | | | passos à frente | | | | | | |
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
janeiro	3.57	4.68	5.11	5.27	5.28	5.30	5.33	3.19	3.83	3.91	3.89	3.87	3.95	4.09	3.95	5.54	6.32	6.66	6.68	6.65	6.57
fevereiro	3.20	4.34	4.76	5.03	5.17	5.14	5.08	2.76	3.25	3.33	3.64	3.81	3.82	3.85	3.62	5.39	6.13	6.38	6.48	6.42	6.27
março	3.59	4.79	5.49	5.71	5.85	5.92	5.92	3.85	4.90	5.52	5.61	5.71	5.80	5.79	3.33	4.68	5.46	5.82	6.00	6.03	6.06
abril	3.06	4.22	4.62	4.64	4.61	4.69	4.73	2.79	3.75	4.03	3.98	3.87	3.95	4.03	3.34	4.68	5.22	5.29	5.35	5.44	5.44
maio	2.72	3.61	4.09	4.26	4.37	4.47	4.55	2.56	3.08	3.47	3.50	3.53	3.66	3.77	2.89	4.13	4.72	5.02	5.21	5.29	5.33
junho	2.28	2.79	2.93	3.04	3.07	3.05	3.04	2.56	2.88	2.88	2.91	2.96	2.96	2.97	2.01	2.70	2.98	3.17	3.19	3.14	3.12
julho	2.81	3.62	3.81	3.84	3.90	3.92	3.94	2.50	3.11	3.03	2.90	2.87	2.90	2.91	3.12	4.13	4.58	4.78	4.92	4.94	4.97
agosto	3.33	4.54	5.23	5.56	5.76	5.91	6.04	2.86	3.57	3.74	3.79	3.82	3.86	3.88	3.79	5.51	6.72	7.34	7.69	7.96	8.20
setembro	3.51	4.66	5.26	5.47	5.60	5.68	5.75	3.14	4.17	4.70	4.79	4.72	4.79	4.87	3.88	5.15	5.82	6.16	6.49	6.58	6.64
outubro	3.99	5.13	5.61	5.86	6.00	6.13	6.21	3.75	4.77	5.28	5.59	5.79	5.92	6.03	4.23	5.49	5.95	6.12	6.22	6.34	6.40
novembro	3.82	4.84	5.11	5.29	5.47	5.58	5.67	3.87	4.97	5.47	5.76	5.97	6.13	6.31	3.77	4.70	4.76	4.83	4.98	5.02	5.04
dezembro	3.91	5.21	5.65	5.64	5.60	5.50	5.48	3.16	3.91	4.38	4.39	4.28	4.11	4.06	4.66	6.50	6.92	6.90	6.91	6.88	6.89
min	2.28	2.79	2.93	3.04	3.07	3.05	3.04	2.50	2.88	2.88	2.90	2.87	2.90	2.91	2.01	2.70	2.98	3.17	3.19	3.14	3.12
med	3.32	4.37	4.81	4.97	5.06	5.11	5.15	3.08	3.85	4.15	4.23	4.27	4.32	4.38	3.55	4.88	5.47	5.70	5.84	5.89	5.91
max	3.99	5.21	5.65	5.86	6.00	6.13	6.21	3.87	4.97	5.52	5.76	5.97	6.13	6.31	4.66	6.50	6.92	7.34	7.69	7.96	8.20

Tabela A.6: MAPE por dia da semana - modelo *TLSAR*

| dia da semana | total | | | | | | | 1999 | | | | | | | 2000 | | | | | | |
| | passos à frente | | | | | | | passos à frente | | | | | | | passos à frente | | | | | | |
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
segunda	3.27	3.98	4.58	4.79	4.75	4.75	4.77	3.09	3.49	4.00	3.99	3.92	3.90	3.96	3.46	4.48	5.19	5.62	5.62	5.64	5.62
terça	3.97	4.74	4.72	4.97	5.13	5.18	5.21	3.30	3.91	3.86	4.09	4.10	4.16	4.18	4.64	5.56	5.57	5.84	6.17	6.21	6.25
quarta	2.63	4.55	4.86	4.85	4.97	5.10	5.14	2.28	3.75	3.80	3.80	3.96	4.04	4.08	2.95	5.30	5.84	5.84	5.92	6.10	6.13
quinta	2.71	3.63	4.55	4.65	4.66	4.76	4.83	2.56	3.13	3.87	3.89	3.86	3.97	4.03	2.87	4.13	5.23	5.41	5.46	5.55	5.63
sexta	3.12	4.13	4.63	5.01	5.08	5.06	5.16	3.17	3.96	4.25	4.55	4.61	4.59	4.70	3.07	4.31	5.01	5.49	5.56	5.56	5.63
sábado	2.85	4.06	4.51	4.72	4.92	4.93	4.96	2.80	3.76	4.07	4.19	4.33	4.40	4.42	2.91	4.35	4.95	5.23	5.50	5.46	5.49
domingo	3.00	4.05	4.58	4.70	4.78	4.83	4.85	2.80	3.61	3.87	3.93	3.92	3.94	3.99	3.17	4.45	5.23	5.38	5.56	5.63	5.62
min	2.63	3.63	4.51	4.65	4.66	4.75	4.77	2.28	3.13	3.80	3.80	3.86	3.90	3.96	2.87	4.13	4.95	5.23	5.46	5.46	5.49
med	3.08	4.16	4.63	4.81	4.90	4.95	4.99	2.86	3.66	3.96	4.06	4.10	4.14	4.19	3.30	4.65	5.29	5.54	5.68	5.73	5.77
max	3.97	4.74	4.86	5.01	5.13	5.18	5.21	3.30	3.96	4.25	4.55	4.61	4.59	4.70	4.64	5.56	5.84	5.84	6.17	6.21	6.25

Ensaios em Previsão de Carga a curto prazo

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Tabela A.7: MAPE por tipo de dia - modelo *TLSAR*

tipo de dia	total (1999 − 2000)							1999							2000						
	passos à frente							passos à frente							passos à frente						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	3.27	4.02	4.60	4.81	4.77	4.77	4.78	3.10	3.53	4.02	4.02	3.94	3.92	3.96	3.46	4.52	5.21	5.64	5.64	5.65	5.62
2	3.93	4.71	4.71	4.94	5.12	5.18	5.21	3.26	3.88	3.85	4.07	4.08	4.15	4.17	4.60	5.54	5.56	5.82	6.16	6.20	6.24
3	2.64	4.55	4.85	4.84	4.96	5.09	5.13	2.29	3.75	3.78	3.79	3.94	4.02	4.07	2.96	5.30	5.84	5.83	5.91	6.10	6.13
4	2.71	3.63	4.54	4.64	4.65	4.74	4.83	2.55	3.13	3.86	3.88	3.85	3.95	4.02	2.87	4.13	5.23	5.40	5.45	5.54	5.63
5	3.11	4.13	4.62	5.01	5.08	5.05	5.16	3.16	3.95	4.24	4.55	4.61	4.58	4.70	3.06	4.33	5.00	5.49	5.57	5.55	5.64
6	2.84	4.05	4.51	4.71	4.93	4.94	4.96	2.80	3.75	4.05	4.18	4.34	4.40	4.42	2.88	4.33	4.95	5.23	5.51	5.47	5.49
7	3.03	4.07	4.59	4.69	4.78	4.83	4.85	2.85	3.62	3.86	3.93	3.91	3.93	3.99	3.19	4.47	5.24	5.38	5.57	5.63	5.62
8	5.71	6.13	6.09	6.04	6.21	6.30	6.23	5.40	6.26	6.28	6.13	6.22	6.37	6.39	6.03	5.99	5.91	5.96	6.19	6.23	6.07
9	4.26	6.45	6.81	6.95	6.94	7.02	7.13	4.21	5.96	6.56	6.82	6.84	7.17	7.53	4.34	7.17	7.18	7.15	7.09	6.79	6.53
10	3.11	4.06	5.09	5.26	5.30	5.25	5.16	2.89	3.46	4.53	4.21	4.24	4.27	4.17	3.34	4.66	5.65	6.31	6.36	6.23	6.15
11	5.71	5.36	6.20	6.50	6.88	7.19	7.44	5.93	5.01	5.62	5.79	5.86	6.02	6.37	5.49	5.70	6.78	7.21	7.91	8.35	8.51
12	2.51	5.88	4.34	3.07	3.23	3.85	4.29	2.63	3.25	3.27	2.17	2.32	3.01	3.50	2.28	11.15	6.48	4.88	5.04	5.53	5.89
13	6.71	7.80	7.25	7.06	6.90	6.84	6.88	5.43	5.56	4.87	4.93	4.92	4.92	4.74	9.27	12.29	12.02	11.34	10.87	10.68	11.17
14	5.85	6.20	6.74	7.68	7.43	7.62	7.75	4.15	2.53	2.94	3.08	2.99	2.93	2.81	7.54	9.87	10.54	12.29	11.87	12.32	12.69
15	7.87	8.61	8.28	8.21	8.17	8.25	8.18	5.85	5.61	5.03	5.25	5.32	5.54	5.61	9.90	11.61	11.53	11.17	11.03	10.95	10.75
min	2.51	3.63	4.34	3.07	3.23	3.85	4.29	2.29	2.53	2.94	2.17	2.32	2.93	2.81	2.28	4.13	4.95	4.88	5.04	5.47	5.49
med	4.22	5.31	5.55	5.63	5.69	5.79	5.87	3.77	4.22	4.45	4.45	4.49	4.61	4.70	4.75	6.74	6.88	7.01	7.08	7.15	7.21
max	7.87	8.61	8.28	8.21	8.17	8.25	8.18	5.93	6.26	6.56	6.82	6.84	7.17	7.53	9.90	12.29	12.02	12.29	11.87	12.32	12.69

A.3
Modelo de Memória Longa Generalizada ajustado por variáveis binárias ($DAGLM$)

Ensaios em Previsão de Carga a curto prazo

Tabela A.8: MAPE modelo *DAGLM*

hora	total							1999							2000						
	passos à frente							passos à frente							passos à frente						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1	4.07	5.78	6.6	7	7.24	7.35	7.44	3.76	5.14	5.82	6.08	6.30	6.49	6.71	4.37	6.42	7.38	7.92	8.18	8.20	8.16
2	4.06	5.82	6.73	7.13	7.38	7.52	7.62	3.68	5.09	5.84	6.12	6.33	6.59	6.81	4.43	6.54	7.62	8.15	8.43	8.45	8.42
3	3.96	5.71	6.68	7.07	7.33	7.46	7.58	3.54	4.97	5.75	6.00	6.18	6.47	6.70	4.37	6.45	7.61	8.15	8.46	8.44	8.45
4	3.79	5.46	6.47	6.83	7.09	7.23	7.33	3.35	4.67	5.54	5.73	5.92	6.18	6.40	4.23	6.24	7.40	7.93	8.26	8.28	8.26
5	3.62	5.19	6.16	6.54	6.79	6.95	7.07	3.21	4.39	5.20	5.39	5.56	5.83	6.04	4.03	5.99	7.12	7.69	8.01	8.06	8.09
6	3.36	4.84	5.64	5.99	6.2	6.38	6.5	2.91	4.09	4.70	4.93	5.07	5.35	5.54	3.81	5.60	6.58	7.05	7.32	7.40	7.46
7	3.22	4.38	5.02	5.25	5.44	5.58	5.66	2.85	3.69	4.16	4.30	4.43	4.63	4.72	3.60	5.08	5.88	6.21	6.43	6.53	6.59
8	2.98	3.99	4.51	4.71	4.89	5.02	5.1	2.74	3.37	3.75	3.88	4.04	4.22	4.31	3.22	4.61	5.26	5.54	5.73	5.81	5.88
9	2.89	3.86	4.26	4.45	4.6	4.71	4.78	2.75	3.45	3.76	3.86	3.98	4.12	4.21	3.03	4.28	4.75	5.03	5.22	5.30	5.35
10	2.89	3.76	4.14	4.27	4.37	4.43	4.5	2.82	3.46	3.78	3.86	3.93	4.00	4.07	2.97	4.06	4.49	4.67	4.80	4.86	4.92
11	2.96	3.78	4.12	4.27	4.35	4.4	4.43	2.92	3.59	3.86	3.97	4.01	4.04	4.05	3.00	3.97	4.39	4.56	4.69	4.76	4.81
12	2.97	3.8	4.14	4.26	4.32	4.35	4.37	2.89	3.61	3.88	3.96	3.97	3.98	4.00	3.05	3.99	4.41	4.56	4.68	4.73	4.75
13	2.99	3.9	4.25	4.38	4.45	4.47	4.51	2.99	3.79	4.07	4.17	4.19	4.19	4.24	3.00	4.00	4.44	4.59	4.71	4.76	4.78
14	3.16	4.18	4.56	4.72	4.77	4.79	4.81	3.15	4.06	4.40	4.51	4.49	4.49	4.52	3.17	4.29	4.72	4.93	5.05	5.10	5.10
15	3.3	4.33	4.75	4.91	4.99	5.01	5.04	3.22	4.16	4.52	4.63	4.67	4.67	4.73	3.38	4.51	4.98	5.19	5.31	5.35	5.36
16	3.32	4.33	4.73	4.91	5.02	5.08	5.1	3.21	4.11	4.48	4.60	4.70	4.74	4.77	3.43	4.55	4.98	5.23	5.33	5.41	5.43
17	3.43	4.14	4.47	4.58	4.67	4.72	4.72	3.26	3.84	4.17	4.27	4.35	4.40	4.43	3.60	4.43	4.77	4.89	4.98	5.04	5.02
18	3.2	3.84	4.07	4.15	4.2	4.21	4.25	2.95	3.49	3.71	3.79	3.81	3.85	3.90	3.44	4.19	4.43	4.52	4.58	4.58	4.59
19	3.01	3.57	3.82	4.01	4.15	4.22	4.26	2.82	3.38	3.57	3.73	3.87	3.94	3.99	3.21	3.77	4.07	4.30	4.44	4.50	4.53
20	2.53	3.08	3.26	3.39	3.46	3.5	3.53	2.35	2.87	2.93	3.04	3.05	3.07	3.12	2.71	3.30	3.60	3.74	3.87	3.93	3.93
21	2.43	3.14	3.48	3.66	3.72	3.79	3.84	2.23	2.83	3.10	3.21	3.27	3.35	3.47	2.63	3.45	3.85	4.11	4.16	4.23	4.22
22	2.77	3.75	4.18	4.41	4.52	4.6	4.65	2.56	3.39	3.75	3.88	3.93	4.02	4.13	2.98	4.12	4.62	4.94	5.11	5.17	5.16
23	3.31	4.57	5.14	5.44	5.57	5.65	5.71	3.04	3.99	4.45	4.66	4.72	4.87	5.01	3.58	5.15	5.82	6.22	6.41	6.43	6.41
24	3.84	5.36	6.07	6.47	6.64	6.76	6.83	3.54	4.75	5.33	5.60	5.72	5.92	6.10	4.14	5.96	6.81	7.34	7.56	7.60	7.56
min	2.43	3.08	3.26	3.39	3.46	3.5	3.53	2.23	2.83	2.93	3.04	3.05	3.07	3.12	2.63	3.30	3.60	3.74	3.87	3.93	3.93
med	3.25	4.36	4.89	5.12	5.26	5.34	5.4	3.03	3.92	4.35	4.51	4.60	4.73	4.83	3.48	4.79	5.42	5.73	5.91	5.95	5.97
max	4.07	5.82	6.73	7.13	7.38	7.52	7.62	3.76	5.14	5.84	6.12	6.33	6.59	6.81	4.43	6.54	7.62	8.15	8.46	8.45	8.45

Tabela A.9: MAPE por mês - modelo *DAGLM*

mês	total							1999							2000						
	passos à frente							passos à frente							passos à frente						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
janeiro	3.87	5.37	6.26	6.82	7.08	7.27	7.40	3.53	4.79	5.48	6.00	6.49	7.01	7.41	4.21	5.95	7.05	7.65	7.68	7.53	7.39
fevereiro	3.36	4.73	5.42	5.97	6.26	6.29	6.30	3.10	3.89	4.24	4.80	5.17	5.39	5.68	3.62	5.55	6.56	7.11	7.32	7.16	6.90
março	3.04	4.27	5.02	5.29	5.48	5.64	5.73	2.81	3.95	4.71	4.85	4.97	5.17	5.18	3.27	4.59	5.34	5.73	6.00	6.10	6.28
abril	2.78	3.88	4.54	4.80	4.82	4.94	5.03	2.81	3.66	4.42	4.63	4.48	4.52	4.60	2.75	4.10	4.67	4.97	5.16	5.35	5.46
maio	2.64	3.52	4.11	4.49	4.73	4.95	5.12	2.47	2.99	3.51	3.86	4.07	4.35	4.55	2.82	4.06	4.70	5.12	5.40	5.56	5.69
junho	2.33	2.94	3.25	3.43	3.49	3.43	3.35	2.46	2.81	2.97	2.99	3.06	3.04	3.02	2.20	3.07	3.54	3.88	3.93	3.83	3.68
julho	2.65	3.44	3.57	3.51	3.56	3.58	3.58	2.39	3.02	2.97	2.75	2.68	2.72	2.72	2.91	3.87	4.17	4.26	4.44	4.45	4.44
agosto	2.82	3.79	4.39	4.64	4.81	4.97	5.14	2.21	3.04	3.27	3.32	3.38	3.42	3.43	3.42	4.55	5.52	5.96	6.24	6.53	6.86
setembro	3.51	4.51	5.09	5.21	5.23	5.28	5.31	3.19	4.07	4.62	4.48	4.40	4.54	4.70	3.82	4.95	5.56	5.94	6.05	6.01	5.92
outubro	3.53	4.67	5.23	5.54	5.67	5.79	5.85	3.26	4.24	4.59	4.84	4.87	4.88	4.89	3.79	5.11	5.87	6.24	6.47	6.69	6.81
novembro	3.89	4.98	5.10	5.13	5.32	5.40	5.38	3.91	5.01	5.27	5.39	5.53	5.68	5.75	3.88	4.95	4.93	4.88	5.12	5.13	5.02
dezembro	4.61	6.17	6.63	6.57	6.61	6.56	6.60	4.23	5.63	6.21	6.18	6.17	6.02	6.09	5.00	6.71	7.06	6.96	7.05	7.09	7.10
min	2.33	2.94	3.25	3.43	3.49	3.43	3.35	2.21	2.81	2.97	2.75	2.68	2.72	2.72	2.20	3.07	3.54	3.88	3.93	3.83	3.68
med	3.25	4.36	4.88	5.12	5.26	5.34	5.40	3.03	3.93	4.36	4.51	4.61	4.73	4.84	3.47	4.79	5.41	5.73	5.91	5.95	5.96
max	4.61	6.17	6.63	6.82	7.08	7.27	7.40	4.23	5.63	6.21	6.18	6.49	7.01	7.41	5.00	6.71	7.06	7.65	7.68	7.53	7.39

Tabela A.10: MAPE por dia da semana - modelo *DAGLM*

dia da semana	total							1999							2000						
	passos à frente							passos à frente							passos à frente						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	1	2	3	4	5	6	7
segunda	3.34	4.31	4.85	5.13	5.20	5.29	5.22	3.19	4.01	4.55	4.51	4.55	4.63	4.60	3.50	4.62	5.16	5.77	5.88	5.98	5.86
terça	3.63	4.62	4.78	5.00	5.24	5.35	5.44	3.18	4.24	4.46	4.71	4.78	4.96	5.03	4.09	5.00	5.10	5.30	5.69	5.74	5.85
quarta	2.59	4.41	5.03	5.09	5.16	5.30	5.35	2.32	3.77	4.18	4.30	4.51	4.68	4.79	2.85	5.01	5.83	5.82	5.77	5.88	5.86
quinta	2.75	3.55	4.51	4.84	4.88	4.98	5.05	2.56	3.08	3.94	4.19	4.15	4.29	4.41	2.95	4.02	5.08	5.48	5.60	5.66	5.70
sexta	3.01	3.88	4.29	4.78	4.96	4.99	5.12	2.81	3.42	3.65	4.09	4.31	4.31	4.45	3.22	4.37	4.95	5.51	5.63	5.70	5.83
sábado	2.79	4.12	4.65	4.82	5.07	5.20	5.32	2.57	3.71	4.10	4.17	4.37	4.63	4.70	3.01	4.51	5.19	5.47	5.74	5.75	5.93
domingo	3.01	4.05	4.71	4.91	5.05	5.06	5.19	2.80	3.59	4.03	4.18	4.24	4.27	4.49	3.20	4.45	5.32	5.57	5.78	5.78	5.81
min	2.59	3.55	4.29	4.78	4.88	4.98	5.05	2.32	3.08	3.65	4.09	4.15	4.27	4.41	2.85	4.02	4.95	5.30	5.60	5.66	5.70
med	3.02	4.13	4.69	4.94	5.08	5.17	5.24	2.78	3.69	4.13	4.31	4.42	4.54	4.64	3.26	4.57	5.23	5.56	5.73	5.78	5.83
max	3.63	4.62	5.03	5.13	5.24	5.35	5.44	3.19	4.24	4.55	4.71	4.78	4.96	5.03	4.09	5.01	5.83	5.82	5.88	5.98	5.93

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