# Relatório EDPs HCV

para a reuniao do dia 06/17/21(mes/dia)

DE 11param para 8 dias PATBXX e CXX comparação de 2 vezes executando o mesmo código

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### Observações



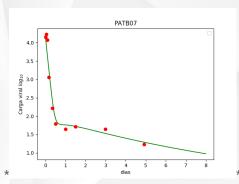
- Foram realizadas duas execuções do mesmo código. Tambem fiz um teste com B07 e B16 tirando um ponto
- Não fiz a media e o desvio padrao dos parametros porque, como será mostrado, os parametros variam de acordo com as execuções
- Foi feita uma DE para 8 dias usando V0 como o valor do primeiro ponto experimental
- 30 popsize 30 maxiter Parametros e bounds:
  - $\epsilon_r = (0.1,0.99) \epsilon_\alpha = (0.1,0.99) \epsilon_S = (0.1,0.99)$
  - alpha = 20,60 // r = 0.1,10 // delta = (0.01,2) //  $\mu_c$  = (0.1,2)
  - $\rho = (1,15)$
  - $\theta = (1,2)$
  - σ = (1,2)
  - c = (10,25)



Table: Parametros das DEs

parametros	1 teste	2 teste
$\epsilon_r$	0.6	0.599
$\epsilon_{lpha}$	0.76	0.579
$\epsilon_{\mathtt{S}}$	0.95	0.964
$\alpha$	20.6	22.67
r	0.54	1.846
δ	0.15	0.3327
$\mu_{c}$	0.66	1.779
ρ	4.99	8.435
$\theta$	1.3	1.564
$\sigma$	1.27	1.394
С	11.4	11.857
erro	0.0647	0.064





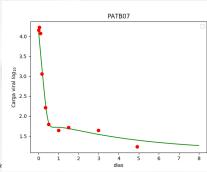
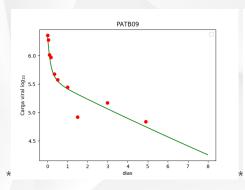




Table: Parametros das DEs

parametros	1 teste	2 teste
$\epsilon_{r}$	0.334	0.232
$\epsilon_{lpha}$	0.478	0.434
$\epsilon_{\mathtt{S}}$	0.2345	0.132
$\alpha$	42.94	22.44
r	0.1217	0.1396
δ	0.3409	0.231
$\mu_{c}$	0.1067	0.3558
ρ	5.279	1.673
$\theta$	1.8919	1.577
$\sigma$	1.703	1.509
С	11.6	10.563
erro	0.4658	0.0445





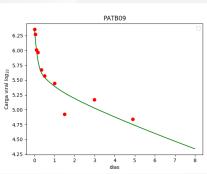
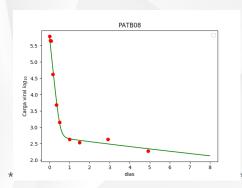




Table: Parametros das DEs

parametros	1 teste	2 teste
$\epsilon_r$	0.4758	0.16
$\epsilon_{lpha}$	0.905	0.775
$\epsilon_{\mathtt{S}}$	0.5116	0.16
$\alpha$	23.92	29.7
r	0.699	4.85
δ	0.063	0.178
$\mu_{c}$	0.111	0.448
ρ	13.83	13.524
$\theta$	1.809	1.611
$\sigma$	1.9634	1.872
С	11.712	12.47
erro	0.0494	0.04959





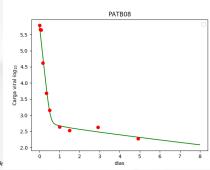
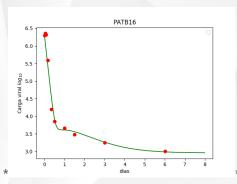




Table: Parametros das DEs

parametros	1 teste	2 teste
$\epsilon_r$	0.7498	0.475
$\epsilon_{lpha}$	0.453	0.566
$\epsilon_{ extsf{S}}$	0.963	0.935
$\alpha$	22.849	26.888
r	5.871	4.371
δ	0.875	0.706
$\mu_{c}$	0.732	0.702
ρ	11.95	10.320
$\theta$	1.343	1.180
$\sigma$	1.393	1.676
С	11.169	11.482
erro	0.0717	0.0717





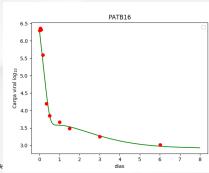
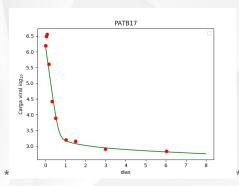




Table: Parametros das DEs

parametros	1 teste	2 teste
$\epsilon_r$	0.722	0.11
$\epsilon_{lpha}$	0.679	0.654
$\epsilon_{ t s}$	0.293	0.173
$\alpha$	46.732	52.16
r	4.328	3.098
δ	0.0319	0.11
$\mu_{c}$	0.973	1.645
ρ	12.094	14.463
$\theta$	1.74	1.689
$\sigma$	1.506	1.59
С	10.00	10.025
erro	0.0995	0.0996
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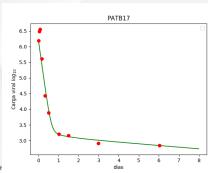
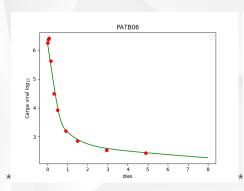




Table: Parametros das DEs

parametros	1 teste	2 teste	
$\epsilon_r$	0.211	0.464	
$\epsilon_{lpha}$	0.959	0.8978	
$\epsilon_{ t S}$	0.788	0.9125	
$\alpha$	32.7	50.52	
r	2.388	3.448	
δ	0.0997	0.103	
$\mu_{c}$	0.232	1.792	
ρ	6.729	7.589	
$\theta$	1.44	1.766	
$\sigma$	1.893	1.797	
С	10.18	10.16	
erro	0.0741	0.07416	





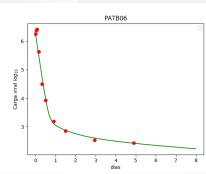
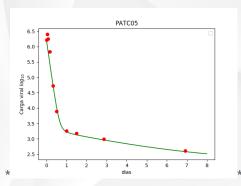




Table: Parametros das DEs

parametros	1 teste	2 teste
$\epsilon_r$	0.103	0.368
$\epsilon_{lpha}$	0.773	0.768
$\epsilon_{ extsf{S}}$	0.33	0.397
$\alpha$	58.68	58.4
r	2.5698	4.475
δ	0.3005	0.284
$\mu_{c}$	0.837	1.194
ρ	9.111	13.78
$\theta$	1.207	1.783
$\sigma$	1.477	1.371
С	10.005	10.04
erro	0.077	0.0773





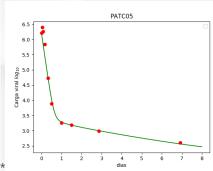
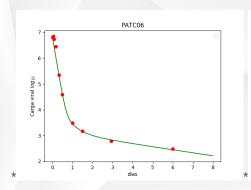




Table: Parametros das DEs

parametros	1 teste	2 teste
€r	0.12	0.559
$\epsilon_{lpha}$	0.972	0.907
€s	0.857	0.137
$\alpha$	25.25	24.52
r	7.671	4.85
δ	0.245	0.109
$\mu_{c}$	0.364	0.646
ρ	14.23	8.296
$\theta$	1.4	1.394
$\sigma$	1.32	1.047
С	10	10.025
erro	0.0643	0.066





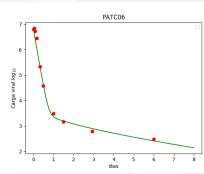
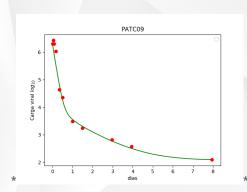




Table: Parametros das DEs

parametros	1 teste	2 teste
$\epsilon_r$	0.376	0.376
$\epsilon_{lpha}$	0.718	0.585
$\epsilon_{\mathtt{S}}$	0.166	0.328
$\alpha$	56.77	39.36
r	2.703	3.804
δ	0.834	0.774
$\mu_{c}$	1.584	1.178
ρ	6.86	13.599
$\theta$	1.94	1.491
$\sigma$	1.84	1.791
С	10.09	10
erro	0.07216	0.07326





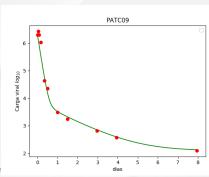
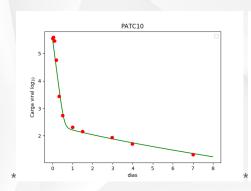




Table: Parametros das DEs

e parametros	1 teste	2 teste
$\epsilon_r$	0.84	0.893
$\epsilon_{lpha}$	0.826	0.759
$\epsilon_{\mathtt{S}}$	0.231	0.961
$\alpha$	39.19	27.47
r	2.553	4.44
δ	0.088	0.0133
$\mu_{c}$	0.332	1.419
ρ	14.31	14.11
$\theta$	1.22	1.489
$\sigma$	1.038	1.515
С	12.18	11.56
erro	0.06233	0.06197





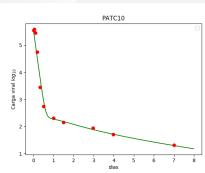






Table: Parametros da DE sem t=1

parametros	teste 1	teste 2	teste
$\epsilon_r$	0.6	0.599	0.357
$\epsilon_{lpha}$	0.76	0.579	0.295
$\epsilon_{ t S}$	0.95	0.964	0.684
$\alpha$	20.6	22.67	30.49
r	0.54	1.846	0.5775
δ	0.15	0.3327	0.224
$\mu_{c}$	0.66	1.779	1.186
ρ	4.99	8.435	12.477
$\theta$	1.3	1.564	1.442
$\sigma$	1.27	1.394	1.28
С	11.4	11.857	12.38
erro	0.0647	0.064	0.073



