Relatório EDPs HCV

para a reuniao do dia 04/05/21

Resultados DE com codigo C++ com integral de N

Matheus Avila Moreira de Paula
UFJF

Observações



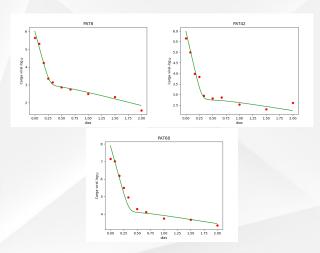
- Bounds usadas: Para δ , μ_t , r, μ_c , ϵ_{α} , ϵ_r (0.1,0.9),(0.4,0.9),(1,5.8),(1.1,4.5),(0.3,0.999),(0.01,0.8)
- Os outros 4 parâmetros que foram incluidos na DE não tem variação expressiva. Só estão lá para fazer as constraints
- Erro com interpolação polinomial
- Maxiter=10; Pop-size=10
- N\u00e3o coloquei as constraints da biblioteca!!! Coloquei as constraints no if do model HCV.h

Parâmetros

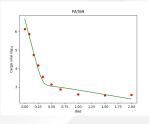


- d = 0.010; s = 130000; beta = 5*pow(10,-8);
- c = 22.30; rho = 8.180; alpha = 30.0;
- Rmax = 50.0; tau = 0.50; n = 1.00; k = 0.80;
- sigma = 1.30; theta = 1.20; $epsilon_s = 0.998$; $kappa_t = 1.00$; $kappa_c = 1.00$;









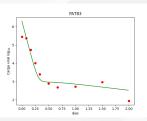




Table: Parametros da tese

Parametro	PAT8	PAT42	PAT68	PAT69	PAT83	
δ	0.58	0.64	0.1	0.47	0.62	
μ_{t}	0.89	0.89	0.88	0.89	0.89	
r	1.49	1.1	5.08	2.24	1.61	
μ_{c}	2.55	1.72	3.38	3.15	2.39	
ϵ_{lpha}	0.928	0.909	0.992	0.936	0.924	
$\epsilon_{\it r}$	0.47	0.12	0.61	0.36	0.29	
Erro	0.496	0.619	0.69	0.71	0.96	

Table: Parametros da DE Matheus

	Parametro	PAT8	PAT42	PAT68	PAT69	PAT83	
	δ	0.54	0.55	0.11	0.65	0.67	
	μ_t	0.57	0.89	0.707	0.80	0.76	
	r	1.80	2.19	5.78	3.75	3.02	
	μ_{c}	4.13	3.99	1.59	4.43	4.44	
	ϵ_{lpha}	0.957	0.72	0.993	0.801	0.687	
	ϵ_r	0.25	0.12	0.405	0.052	0.092	
4	eraira dErro	1.273	2.35	2.67	2.25	3.35	-

Observações



- Bounds usadas: Para δ , μ_t , r, μ_c , ϵ_α , ϵ_r (0.1,0.9),(0.4,0.9),(1,5.8),(1.1,4.5),(0.3,0.999),(0.01,0.8)
- Os outros 4 parâmetros que foram incluidos na DE não tem variação expressiva. Só estão lá para fazer as constraints
- Erro apenas com os pontos experimentais
- Maxiter=10; Pop-size=10
- N\u00e3o coloquei as constraints da biblioteca!!! Coloquei as constraints no if do model HCV.h
- Os valores do erro ficaram bem menores, porque o cálculo não leva em conta o número de pontos. Ou seja, quanto mais pontos maior vai ser o erro

Calculo do erro



scipy.spatial.distance.euclidean(u, v, w=None)

Computes the Euclidean distance between two 1-D arrays.

The Euclidean distance between 1-D arrays u and v, is defined as

$$\frac{||u-v||_2}{\left(\sum \left(w_i|(u_i-v_i)|^2\right)\right)^{1/2}}$$

Parameters: u : (N,) array_like

Input array.

v : (N,) array_like Input array.

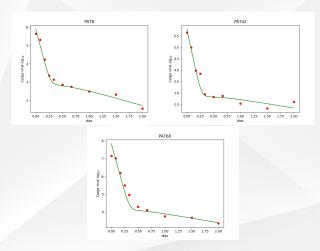
w: (N,) array_like, optional

The weights for each value in u and v. Default is None, which gives each value a weight of 1.0

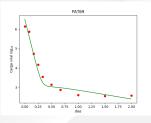
Returns: euclidean : double

The Euclidean distance between vectors u and v.









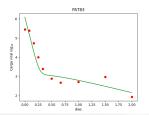




Table: Parametros da tese

PAT8 PAT42		PAT68	PAT69	PAT83	
0.58	0.64	0.1	0.47	0.62	
0.89	0.89	0.88	0.89	0.89	
1.49	1.1	5.08	2.24	1.61	
2.55	1.72	3.38	3.15	2.39	
0.928	0.909	0.992	0.936	0.924	
0.47	0.12	0.61	0.36	0.29	
0.496	0.619	0.69	0.71	0.96	
	0.58 0.89 1.49 2.55 0.928 0.47	0.58 0.64 0.89 0.89 1.49 1.1 2.55 1.72 0.928 0.909 0.47 0.12	0.58 0.64 0.1 0.89 0.89 0.88 1.49 1.1 5.08 2.55 1.72 3.38 0.928 0.909 0.992 0.47 0.12 0.61	0.58 0.64 0.1 0.47 0.89 0.89 0.88 0.89 1.49 1.1 5.08 2.24 2.55 1.72 3.38 3.15 0.928 0.909 0.992 0.936 0.47 0.12 0.61 0.36	

Table: Parametros da DE Matheus

Parameti	o PAT8	PAT42	PAT68	PAT69	PAT83
δ	0.73	0.83	0.1	0.697	0.51
μ_{t}	0.61	0.79	0.66	0.52	0.87
r	1.02	1.49	4.97	3.23	1.43
$\mu_{ extsf{c}}$	3.78	2.64	1.76	4.16	2.31
ϵ_{lpha}	0.867	0.76	0.995	0.793	0.91
ϵ_r	0.7997	0.039	0.73	0.0699	0.62
© Matheus Avila Moreira Gerbaula	0.44	0.703	0.899	0.64	1.04



