

Projeto tubearas do motor Saturno com o EMPUXO 1.9

Propelente: KNSu 65/35

dt = 1e-3

Dados

Grão 9 = Queima de tronco de cone (coroas desinibidas)

Motor	Spro-1	Spro-2	Spro-3	Spro-4	Spro-5	Spro-6	Spro-7
Data TE							
Dg (mm)	60.00	50.00	40.00	30.00	25.00	20.00	15.00
De (mm)	69.90	69.90	69.90	69.90	69.90	69.90	69.90
Di1 (mm)	23.81	23.81	23.81	23.81	23.81	23.81	23.81
Di2 (mm)	26.46	26.46	26.46	26.46	26.46	26.46	26.46
Lp (mm)	197.8	197.8	197.8	197.8	197.8	197.8	197.8
ro (kg/m ³)	1463.36	1463.36	1463.36	1463.36	1463.36	1463.36	1463.36
a (m/s.Pa)	2.66E-05	2.66E-05	2.66E-05	2.66E-05	2.66E-05	2.66E-05	2.66E-05
n (.)	0.39	0.39	0.39	0.39	0.39	0.39	0.39
pa (Pa)	90000	90000	90000	90000	90000	90000	90000
prop	0	0	0	0	0	0	0
expansão	1	1	1	1	1	1	1
Mp (g)	967.0	967.0	967.0	967.0	967.0	967.0	967.0

Resultados

Saturno	Spro-1	Spro-2	Spro-3	Spro-4	Spro-5	Spro-6	Spro-7
It real (N.s)							
It sim (N.s)	60.0	86.7	136.9	254.1	397.0	574.1	721.1
Erro It (%)							
tq real (s)							
tq sim (s)	10.016	9.966	9.825	9.256	8.157	6.292	4.477
Erro tq (%)							
Emed real (N)							
Emed sim (N)	6.0	8.7	13.9	27.5	48.7	91.2	161.1
Erro Emed (%)							
Emax real (N)							
Emax sim (N)	7.6	11.1	17.9	36.4	68.0	119.9	206.1
Erro Emax (%)							
pmed sim (bar)	0.9	0.9	1.0	1.1	1.6	3.0	7.4
pmax sim (bar)	0.9	0.9	1.0	1.2	1.9	3.7	9.0
Is real (s)							
Is sim (s)	6.3	9.1	14.4	26.8	41.9	60.5	76.0
Erro Is (%)							
2,8 * pmax sim	2.5	2.5	2.8	3.4	5.3	10.4	25.2
5,3 * pmax sim	4.8	4.8	5.3	6.4	10.1	19.6	47.7
OBS							

Marchi, 31 Dez 2017