

Analise de Tempo

	Geral			
#	Benckmark	Dominio	Minimo Global	Coef
1	Adjiman	$-1 \leq x_i \leq 1$	$f(0,0) = -2.02181$	
2	Bohachevsky 1	$-50 \leq x_i \leq 50$	$f(0,0) = 0$	
3	Bohachevsky 3	$-50 \leq x_i \leq 50$	$f(0,0) = 0$	
4	Branin RCOS 01	$-5 \leq x_1 \leq 10$ $0 \leq x_2 \leq 15$	$-\pi, 12.275), (\pi, 2.275),$ $(9.42478, 2.475)\}$.39788735772973816	
5	Camel Six	$-3 \leq x_1 \leq 3$ $-2 \leq x_2 \leq 2$	$f\{(0,0.0898;-0,7126),$ $(-0,0898;0,7126)\}$ $= -1,0316$	
6	Camel Three	$-5 \leq x_i \leq 5$	$f(0,0) = 0$	
7	Cosine			
8	Scahffer 1			
9	Styblinski tang	$-5 \leq x_i \leq 5$	$-2,903534;-2.903534)$ $= -78,33198$	
10	Trecanni			
11	Tsoulos			
12	Ursem 1			
13	Wayburn Seader 1			
14	Zirilli			
15	Rotated Ellipse 01			

	Semi-Positivas			
#	Benckmark	Dominio	Minimo Global	Coef
1	Alpine 1		$F(0,0) = 0$	
2	Egg Crate		$F(0,0) = 0$	
3	Himmeblau		$f(3,2) = 0$	
4	Leon		$F(1,1) = 0$	
5	Price 4			
6	Schuwefel 2.25			
7	Sphere			
8	Wayburn Seader 2			
9	Price 1			
10	Dixo & Price			

	Convexas			
#	Benckmark	Dominio	Minimo Global	Coef
1	Booth	$-10 \leq x_i \leq 10$	$f(1,3) = 0$	1000
2	Chung Reynolds			1000
3	Cube			1000
4	MC Cormick	$-2 < x_1 < 4$ $-3 < x_2 < 4$	$f(-0,54719,-1,54719)$ $= -1.9133$	1000
5	Godstein Price	0m1.966s	0m1.966s	1000
6	Schumer			1000
7	Sum Square			1000
8	Matyas	$-10 < x_i < 10$	$f(0,0) = 0$	1000
9	Rotated Ellipse 02			1000
10	Zettl			1000

Analise de Tempo

Boolector		Z3	
$f(2,0.1) = -2.02174$	$f(0,0) = 0$	$f(2,0.1) = -2.02174$	246m10.379s
$f(0,0) = 0$	41m6.222s	$f(0,0) = 0$	74m29.659s
$f(0,0) = 0$	98m11.076s	$f(0,0) = 0$	374m34.955s
$f(3.14,2.28) = 0.397913$	783m54.745s	$f(3.14,2.28)=0.397913$	1646m29.295s
$f(-0.09,0.71) = -1.03157$	61m48.328s	$f(0.09,-0.71) = -1.03157$	546m12.292s
$f(0,0) = 0$	2m14.101s	$f(0,0) = 0$	2m16.150s
$f(0,0) = -0.2$	9m37.403s	$f(0,0) = -0.2$	8m33.652s
$f(0,0) = 0$	8m30.493s	$f(0,0) = 0$	20m25.419s
$f(-2.9,-2.9) = -78.3319$	0m10.710s	$f(-2.9,-2.9) = -78.3319$	22m6.737s
$f(0,0) = 0$	0m10.710s	$f(0,0) = 0$	0m6.389s
$f(0,0) = -2$	4m17.859s	$f(0,0) = -2$	3m26.212s
$f(1.7,0) = -4.8168$	33m34.542s	$f(1.7,0) = -4.8168$	578m54.286s
$f(1,2) = 0$	0m30.552s	$f(1,2) = 0$	0m21.864s
$f(-1,0) = -0.35$	0m20.768s	$f(-1,0) = -0.35$	0m8.106s
$f(0,0) = 0$	1m0.306s	$f(0,0) = 0$	0m49.657s

Boolector		Z3	
$f(-0,0) = 0$	10m57,313s	$f(-0,0) = 0$	4m49,531s
$f(0,-0) = 0$	9m37,702s	$f(0,-0) = 0$	15m10,268s
$f(3,2) = 0$	0m21,450s	$f(3,2) = 0$	0m22,385s
$F(1,1) = 0$	0m4,909s	$F(1,1) = 0$	0m2,406s
$F(0,0) = 0$	0m8,354s	$F(0,0) = 0$	0m6,220s
$f(1,1) = 0$	0m20,440s	$f(1,1) = 0$	0m17,836s
$f(0,0) = 0$	0m0,467s	$f(0,0) = 0$	0m0,592s
$F(0.2,1) = 0$	12m1,563s	$F(0.2,1) = 0$	17m38,814s
$F(5,5) = 0$	0m2,785s	$f(5,-5) = 0$	0m0,948s
$f(1,1) = 0$	0m5.411s	$f(1,1) = 0$	0m1.378s

Boolector		Z3	
$f(1,3) = 0$	0m48.002s	$f(1,3) = 0$	0m51.801s
$f(-9.811,-9.315) = 0$	0m26.236s	$f(-9.976,-9.832) = 0$	0m26.686s
$f(-9.692,-2.538) = 0$	0m23.623s	$f(-9.976,-9.832) = 0$	0m3.453s
$f(-0.55,-1.55) = -1.91321$	44m24.354s	$f(-0.55,-1.55)=-1.91321$	timeout
$f(-0.494,1) = 3$	2m20.593s	$f(-0.649,0.882) = 3$	0m43.945s
$f(0,0) = 0$	0m11.824s	$f(0,0) = 0$	0m11.989s
$f(0,0) = 0$	0m2.664s	$f(0,0) = 0$	0m1.275s
$f(0,0) = 0$	1m22.626s	$f(0,0) = 0$	2m57.086s
$f(0,0) = 0$	0m5.091s	$f(0,0) = 0$	0m33,196s
$f(0,0) = 0$	0m22.185s	$f(0,0) = 0$	0m11.141s

Analise de Tempo

Mathsat		Minisat	
$f(2,0.1) = -2.02174$	70m45,724s	$f(2,0.1) = -2.02174$	60m26,928s
$f(0,0) = 0$	29m19,257s	$f(0,0)=0$	35m52,716s
$f(0,0) = 0$	58m7.546s	$f(0,0) = -0$	1159m53.470s
$f(9.42,2.47)=0.397998$	4125m40.384s	$f(9.421,2.469) = 0.397964$	197m9,507s
$f(-0.09,0.71) = -1.03157$	668m53.360s	$f(0.09,-0.71) = -1.03157$	12m16,242s
$f(0,0) = -6.8813e+23$	1m32.412s	$f(-0,0) = 0$	219m34,466s
$f(0,0) = -0.2$	4m52.842s	$f(-0,-0) = -0.2$	17m41,826s
$f(0,0) = 0$	108m35.148s	$f(0,0)=0$	1708m35.910s
$f(-2.9,-2.9) = -78.3319$	2m23.259s	$f(-2.9,-2.9) = -78.3319$	3m25.353s
$f(0,0) = 0$	0m4.187s	$f(-0,0) = 0$	0m22.407s
$f(0,0) = -2$	3m19.756s	$f(0,-0) = -2$	15m14.983s
$f(1.7,0) = -4.8168$	86m19.487s	$f(1.7,-0) = -4.8168$	133m9.277s
$f(1,2) = 0$	0m23.674s	$f(1,2) = 0$	0m8.758s
$f(-1,0) = -0.35$	0m7.759s	$f(-1,0) = -0.35$	14m49.395s
$f(0,0) = 0$	1m14.772s	$f(-0,-0) = 0$	0m7.371s

Mathsat		Minisat	
$f(-0,0) = 0$	7m22,821s	$f(-0,0) = 0$	78m54,359s
$f(0,-0) = 0$	15m59,374s	$f(0,-0) = 0$	58m58,560s
$f(3,2) = 0$	0m23,444s	$f(3,2) = 0$	0m3,902s
$F(1,1) = 0$	0m3,653s	$F(1,1) = 0$	0m1,304s
$f(0,1) = 0$	0m10,852s	$F(0,0) = 0$	0m1,396s
$f(1,1) = 0$	0m35,497s	$F(1,1) = 0$	0m2,254s
$F(0,0) = 0$	0m0,598s	$F(0,0) = 0$	0m0,504s
4^*	20m14,576s	$F(0.2,1) = 0$	0m13,349s
$f(-5,5) = 0$	0m3,570s	$F(5,5) = 0$	0m3,848s
$f(1,1) = 0$	0m5.411s	$f(1,1) = 0$	0m4.032s

Mathsat		Minisat	
$f(1,3) = 0$	1m5.281s	$f(1,3) = 0$	0m0.983s
$f(-9.953,-4.29496e+06) = 0.0004$	3m31.407s	$f(0,0) = 0$	0m1.231s
$496e+06,-4.29496e+06) = -1.8371$	0m6.315s	$f(1,1) = 0$	0m2.197s
$f(-0.55,-1.55) = -1.91321$	2285m55.597s	$f(-0.55,-1.55) = -1.91321$	1654m29.415s
$f(-0.379,0.99) = 3$	5m58.763s	$f(0,-1) = 3$	13m24.434s
$f(0,0) = 0$	0m12.741s	$f(0,0) = 0$	0m2.567s
$f(0,0) = 0$	0m5.642s	$f(0,0) = 0$	0m2.690s
$f(0,0) = 0$	2m58.975s	$f(0,0) = 0$	0m11.559s
$f(0,0) = 0$	0m50,749s	$f(-0,-0) = 0$	0m5,338s
$f(0,0) = 0$	0m9.791s	$f(-0,0) = -0$	0m4.525s

Analise de Repetição do Mínimo - Minisat

Minisat					
#	Benchmark	Dominio	Minimo Global	P1	P10
1	Adjiman	$-1 < x_1 < 1$	$f(0,0) = -2.02181$	-2	-2.02174
2	Bohachevsky 1	$-100 < x_1 < 100$	$f(0,0) = 0$	0	0
3	Bohachevsky 3	$-50 < x_1 < 50$	$f(0,0) = 0$		
4	Branin RCOS 1			0.644534	0.643924
5	Camel Six				
6	Camel Three				
7	Cosine			-0.2	-0.2
8	Scahffer 1				
9	Styblinski tang			-78	-78.3319
10	Trecanni				
11	Tsoulos				
12	Ursem 1				
13	Wayburn Seader 1				
14	Zirilli			-0.35	-0.35
15	Rotated Ellipse 01				

Minisat					
#	Benchmark	Dominio	Minimo Global	P1	P10
1	Alpine 1			0	0
2	Egg Crate			0	0
3	Himmeblau			0	0
4	Leon			0	0
5	Price 4			0	0
6	Schuwefel 2.25			0	0
7	Sphere			0	0
8	Wayburn Seader 2			0.115685	0
9	Price 1			0	0
10	Dixo & Price				

Minisat					
#	Benchmark	Dominio	Minimo Global	P1	P10
1	Booth			0	0
2	Chung Reynolds				
3	Cube				
4	MC Cormick	$-2 < x_1 < 4$ $-3 < x_2 < 4$	$f(-0.5471, -1.5471) = -1.9133$		
5	Godstein Price	$-2 < x_1 < 2$	$f(0, -1) = 3$		
6	Schumer				
7	Sum Square			0	0
8	Matyas	$-10 < x_1 < 10$	$f(0,0) = 0$		
9	Rotated Ellipse 02			0	0
10	Zettl			0	0

11

Power Sum

P100	P1000
-2.02174	-
-	-
0.401502	0.397964
-0.2	timeout
-78.3319	-78.3322
-0.352335	-0.352335



Artigo

P100	P1000
0	0
-	-
0	0
0	0
-	-
-	-
-	-
0	-
-	-

P100	P1000
0	0
0	0
0	0
-0.003791	-0.003791

Analise de Repetição do Mínimo - Mathsat

Mathsat					
#	Benchmark	Dominio	Minimo Global	P1	P10
1	Adjiman	$-1 < x_i < 1$	$f(0,0) = -2.02181$	-2	-2.02174
2	Bohachevsky 1	$-100 < x_i < 100$	$f(0,0) = 0$	0	0
3	Bohachevsky 3	$-50 < x_i < 50$	$f(0,0) = 0$		
4	Branin RCOS 1			0.644534	0.402935
5	Camel Six				
6	Camel Three				
7	Cosine				
8	Scahffer 1				
9	Styblinski tang				
10	Trecanni				
11	Tsoulos				
12	Ursem 1				
13	Wayburn Seader 1				
14	Zirilli				
15	Rotated Ellipse 01				

Minisat					
#	Benchmark	Dominio	Minimo Global	P1	P10
1	Alpine 1			0	0
2	Egg Crate			0	0
3	Himmeblau			0	0
4	Leon			-5.92178e-24	-5.92178e-24
5	Price 4			0	0
6	Schuwefel 2.25			0	0
7	Sphere			0	0
8	Wayburn Seader 2			0.115685	0
9	Price 1			0	0
10	Dixo & Price				

Minisat					
#	Benchmark	Dominio	Minimo Global	P1	P10
1	Booth			0	0
2	Chung Reynolds				
3	Cube				
4	MC Cormick	$-2 < x_1 < 4$ $-3 < x_2 < 4$	$f(-0,5471, -1,5471) = -1.9133$		
5	Godstein Price	$-2 < x_i < 2$	$f(0, -1) = 3$		
6	Schumer				
7	Sum Square			0	0
8	Matyas	$-10 < x_i < 10$	$f(0,0) = 0$		
9	Rotated Ellipse 02			0	0
10	Zettl			0	0

Análise de Repetição do Mínimo - Mathasat

P100	P1000
-	-
-	-
...	

P100	P1000
0	0
-	-
0	0
-	-
-	-
-	-
-	-
0	-
-	-

P100	P1000
0	0
0	0
0	0
-0.003791	-0.003791

Análise de Repetição do Mínimo - Boolector

Mathsat					
#	Benckmark	Dominio	Minimo Global	P1	P10
1	Adjiman	$-1 < x_i < 1$	$(0,0) = -2.02181$	-2	-2.02174
2	Bohachevsky 1	$-100 < x_i < 100$	$f(0,0)=0$	0	0
3	Bohachevsky 3	$-50 < x_i < 50$	$f(0,0)=0$		
4	Branin RCOS 1			0.644534	0.402935
5	Camel Six			0	-1.02981
6	Camel Three			0	0
7	Cosine			-0.2	-0.2
8	Scahffer 1				
9	Styblinski tang				
10	Trecanni				
11	Tsoulos				
12	Ursem 1				
13	Wayburn Seader 1				
14	Zirilli				
15	Rotated Ellipse 01				

Minisat					
#	Benckmark	Dominio	Minimo Global	P1	P10
1	Alpine 1			0	0
2	Egg Crate			0	0
3	Himmeblau			0	0
4	Leon			0	0
5	Price 4			0	0
6	Schuwefel 2.25			0	0
7	Sphere			0	0
8	Wayburn Seader 2			0.115685	0
9	Price 1			0	0
10	Dixo & Price				

Minisat					
#	Benckmark	Dominio	Minimo Global	P1	P10
1	Booth			0	0
2	Chung Reynolds				
3	Cube				
4	MC Cormick	$-2 < x_1 < 4$ $-3 < x_2 < 4$	$(0,5471, -1,5471) = -1.9133$		
5	Godstein Price	$-2 < x_i < 2$	$f(0,-1)=3$		
6	Schumer				
7	Sum Square			0	0
8	Matyas	$-10 < x_i < 10$	$f(0,0)=0$		
9	Rotated Ellipse 02			0	0
10	Zettl			0	0

Análise de Repetição do Mínimo - Boolector

P100	P1000
-	-
-	-
...	
-1.03157	-1.03157
-	-
-	-

P100	P1000
0	0
-	-
0	0
-	-
-	-
-	-
-	-
0	-
-	-

P100	P1000
0	0
0	0
0	0
-0.003791	-0.003791

Análise de Repetição do Mínimo - Z3

Mathsat					
#	Benchmark	Dominio	Mínimo Global	P1	P10
1	Adjiman	$-1 < x_i < 1$	$(0,0) = -2.0218$	-2	-2.02174
2	Bohachevsky	$-100 < x_i < 100$	$f(0,0)=0$	0	0
3	Bohachevsky	$-50 < x_i < 50$	$f(0,0)=0$		
4	Branin RCOS 1			0.644534	0.402935
5	Camel Six				
6	Camel Three				
7	Cosine				
8	Scahffer 1				
9	Styblinski tang				
10	Trecanni				
11	Tsoulos				
12	Ursem 1				
13	Wayburn Seader 1				
14	Zirilli				
15	Rotated Ellipse 01				

Minisat					
#	Benchmark	Dominio	Mínimo Global	P1	P10
1	Alpine 1			0	0
2	Egg Crate			0	0
3	Himmeblau			0	0
4	Leon			0	0
5	Price 4			0	0
6	Schuwefel 2.25			0	0
7	Sphere			0	0
8	Wayburn Seader 2			0.115685	0
9	Price 1			0	0
10	Dixo & Price				

Minisat					
#	Benchmark	Dominio	Mínimo Global	P1	P10
1	Booth			0	0
2	Chung Reynolds				
3	Cube				
4	MC Cormick	$-2 < x_1 < 4$ $-3 < x_2 < 4$	$(0,5471, -1,5471) = -1.9133$		
5	Godstein Price	$-2 < x_i < 2$	$f(0,-1)=3$		
6	Schumer				
7	Sum Square			0	0
8	Matyas	$-10 < x_i < 10$	$f(0,0)=0$		
9	Rotated Ellipse 02			0	0
10	Zettl			0	0

P100	P1000
-	-
-	-
...	

P100	P1000
0	0
-	-
0	0
-	-
-	-
-	-
-	-
0	-
-	-

P100	P1000
0	0
0	0
0	0
-0.003791	-0.003791