

Projeto de Licenciamento

Cálculo do Campo Magnético a uma distância h do solo
 Perfil Transversal do Campo Magnético μT

CABO DE GUARDA LIGADO À TERRA

DADOS

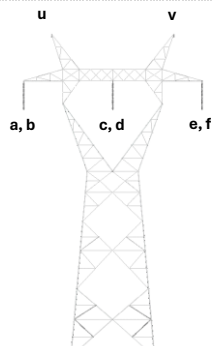
Apoios	Q
Cond. Geminados	Sim
Nº.de ternos	1

C.Condutor	ZAMBEZE
Diâmetro CC [mm]	31.80

C. Guarda	OPGW
Diâmetro CG [mm]	15.80

U_c [kV]	400
I [A]	1339

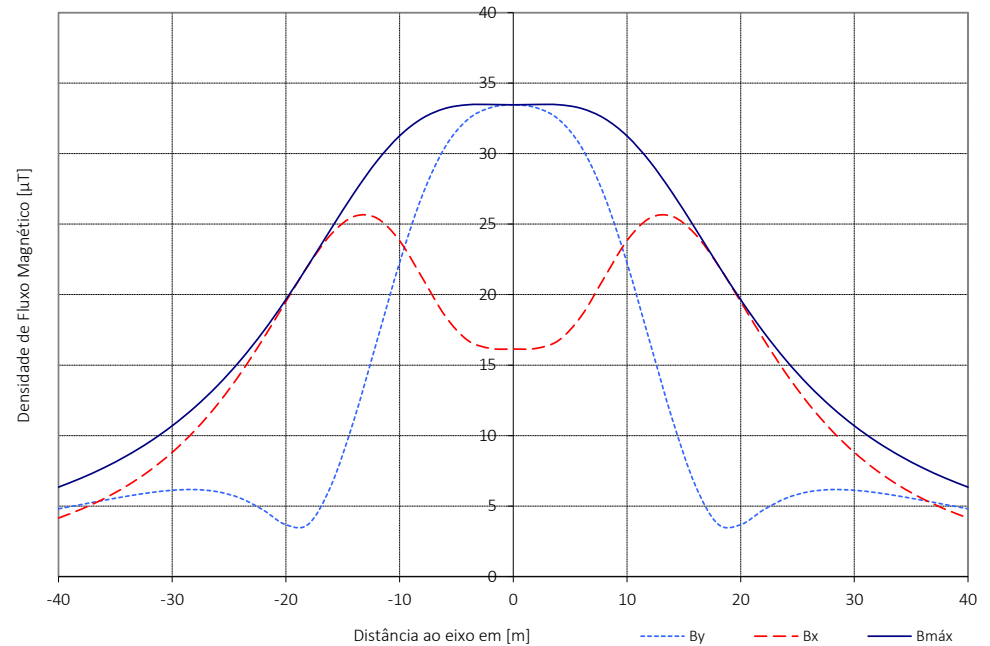
Geometria dos Cabos [m]			
Cond.	Fase	X	Y
a	0	-11.60	15.44
b	0	-11.20	15.44
c	4	-0.20	15.44
d	4	0.20	15.44
e	8	11.20	15.44
f	8	11.60	15.44
u	-1	-8.57	20.44
v	1	8.57	20.44



xN	h= 1.8 [m]		
	B _{máx}	B _x	B _y
-40	6.34	4.15	4.81
-38	6.98	4.78	5.11
-36	7.72	5.53	5.41
-34	8.57	6.43	5.70
-32	9.55	7.51	5.95
-30	10.69	8.81	6.12
-28	12.02	10.37	6.17
-26	13.56	12.23	6.02
-24	15.34	14.40	5.56
-22	17.37	16.86	4.73
-20	19.65	19.51	3.68
-18	22.12	22.12	3.73
-16	24.70	24.30	6.50
-14	27.21	25.55	11.14
-12	29.46	25.42	16.68
-10	31.26	23.82	22.26
-8	32.51	21.19	27.04
-6	33.20	18.50	30.46
-4	33.47	16.76	32.42
-2	33.49	16.18	33.26
0	33.46	16.14	33.46
2	33.49	16.18	33.26
4	33.47	16.76	32.42
6	33.20	18.50	30.46
8	32.51	21.19	27.04
10	31.26	23.82	22.26
12	29.46	25.42	16.68
14	27.21	25.55	11.14
16	24.70	24.30	6.50
18	22.12	22.12	3.73
20	19.65	19.51	3.68
22	17.37	16.86	4.73
24	15.34	14.40	5.56
26	13.56	12.23	6.02
28	12.02	10.37	6.17
30	10.69	8.81	6.12
32	9.55	7.51	5.95
34	8.57	6.43	5.70
36	7.72	5.53	5.41
38	6.98	4.78	5.11
40	6.34	4.15	4.81

Distância ao solo **h= 1.8 [m]**

Perfil Transversal da Densidade de Fluxo Magnético B



Projeto de Licenciamento

Cálculo do Campo Magnético a uma distância h do solo
 Perfil Transversal do Campo Magnético μT

CABO DE GUARDA LIGADO À TERRA

DADOS

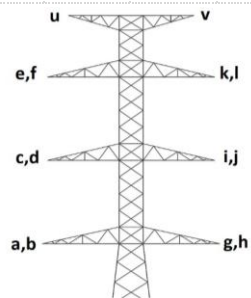
Apoios	DL
Cond. Geminados	Sim
Nº.de ternos	2

C.Condutor	ZAMBEZE
Diâmetro CC [mm]	31.80

C. Guarda	OPGW
Diâmetro CG [mm]	15.80

U_c [kV]	400
I [A]	1339

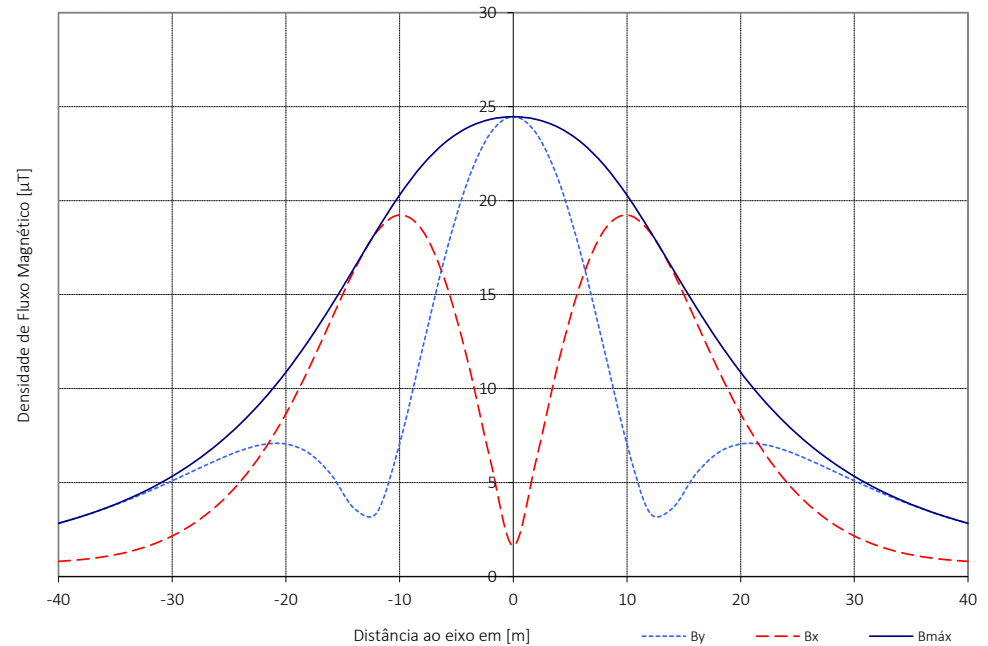
Geometria dos Cabos [m]			
Cond.	Fase	X	Y
a	0	-8.70	14.89
b	0	-8.30	14.89
c	4	-8.20	23.14
d	4	-7.80	23.14
e	8	-8.20	31.39
f	8	-7.80	31.39
g	8	8.30	14.89
h	8	8.70	14.89
i	4	7.80	23.14
j	4	8.20	23.14
k	0	7.80	31.39
l	0	8.20	31.39
u	-1	-6.00	37.52
v	1	6.00	37.52



xN	h= 1.8 [m]		
	B _{máx}	B _x	B _y
-40	2.83	0.81	2.83
-38	3.19	0.90	3.19
-36	3.61	1.05	3.60
-34	4.10	1.29	4.05
-32	4.67	1.65	4.55
-30	5.33	2.16	5.09
-28	6.12	2.86	5.66
-26	7.04	3.81	6.21
-24	8.13	5.06	6.70
-22	9.40	6.66	7.03
-20	10.87	8.66	7.05
-18	12.55	11.04	6.58
-16	14.41	13.68	5.41
-14	16.41	16.28	3.63
-12	18.42	18.34	3.40
-10	20.29	19.23	7.05
-8	21.88	18.42	12.08
-6	23.09	15.74	17.04
-4	23.89	11.46	21.05
-2	24.33	6.15	23.60
0	24.46	1.64	24.46
2	24.33	6.15	23.60
4	23.89	11.46	21.05
6	23.09	15.74	17.04
8	21.88	18.42	12.08
10	20.29	19.23	7.05
12	18.42	18.34	3.40
14	16.41	16.28	3.63
16	14.41	13.68	5.41
18	12.55	11.04	6.58
20	10.87	8.66	7.05
22	9.40	6.66	7.03
24	8.13	5.06	6.70
26	7.04	3.81	6.21
28	6.12	2.86	5.66
30	5.33	2.16	5.09
32	4.67	1.65	4.55
34	4.10	1.29	4.05
36	3.61	1.05	3.60
38	3.19	0.90	3.19
40	2.83	0.81	2.83

Distância ao solo **h= 1.8 [m]**

Perfil Transversal da Densidade de Fluxo Magnético B



Projeto de Licenciamento

Cálculo do Campo Magnético a uma distância h do solo
 Perfil Transversal do Campo Magnético μT

CABO DE GUARDA LIGADO À TERRA

DADOS

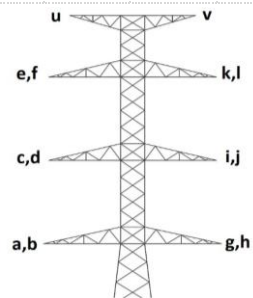
Apoios	DL	
Cond. Geminados	Não	Sim
Nº.de ternos	2	

C. Condutor	ZEBRA	ZAMBEZE
Diâmetro CC [mm]	28.62	31.80

C. Guarda	OPGW	OPGW
Diâmetro CG [mm]	15.80	15.80

U_c [kV]	220	400
I [A]	1140	1339

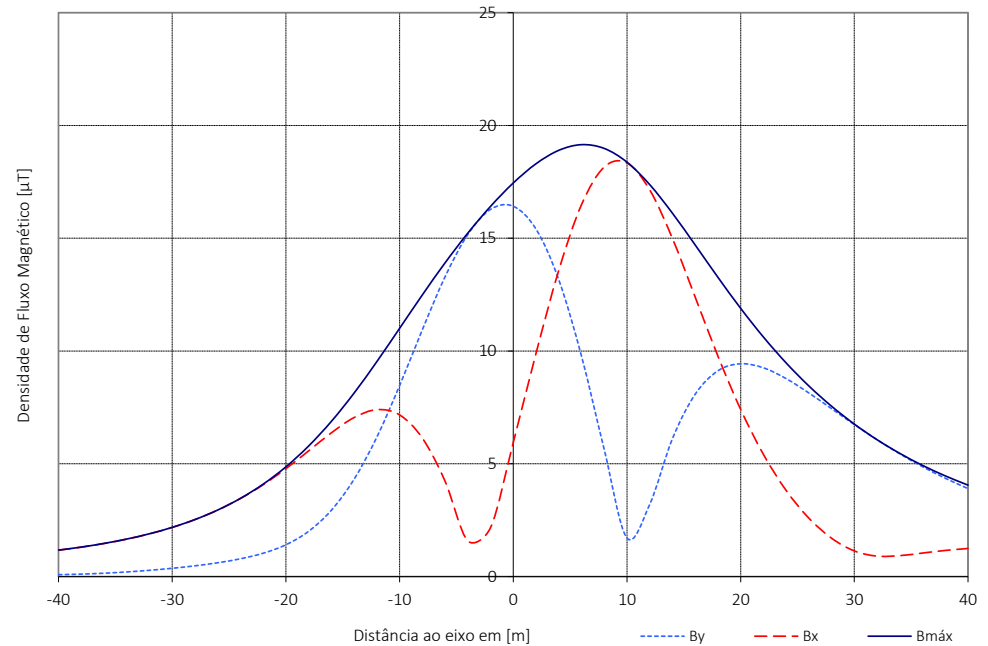
Geometria dos Cabos [m]			
Cond.	Fase	X	Y
a	0	-8.50	17.67
b	-	-	-
c	4	-8.00	25.92
d	-	-	-
e	8	-8.00	34.17
f	-	-	-
g	8	8.30	17.67
h	8	8.70	17.67
i	4	7.80	25.92
j	4	8.20	25.92
k	0	7.80	34.17
l	0	8.20	34.17
u	-1	-6.00	40.27
v	1	6.00	40.27



xN	h= 1.8 [m]		
	B _{máx}	B _x	B _y
-40	1.17	1.17	0.09
-38	1.31	1.30	0.11
-36	1.47	1.47	0.15
-34	1.66	1.66	0.21
-32	1.90	1.89	0.28
-30	2.18	2.18	0.37
-28	2.53	2.53	0.48
-26	2.95	2.95	0.61
-24	3.47	3.46	0.79
-22	4.10	4.07	1.03
-20	4.86	4.78	1.41
-18	5.79	5.57	2.01
-16	6.88	6.37	2.94
-14	8.14	7.05	4.32
-12	9.53	7.40	6.18
-10	11.00	7.17	8.46
-8	12.48	6.14	10.94
-6	13.91	4.23	13.29
-4	15.22	1.58	15.16
-2	16.41	2.17	16.28
0	17.45	5.94	16.42
2	18.30	9.89	15.41
4	18.90	13.57	13.16
6	19.15	16.48	9.78
8	18.98	18.15	5.64
10	18.37	18.34	1.71
12	17.38	17.15	3.20
14	16.11	14.99	6.11
16	14.70	12.39	8.08
18	13.27	9.78	9.12
20	11.89	7.41	9.43
22	10.62	5.42	9.26
24	9.47	3.82	8.78
26	8.45	2.59	8.14
28	7.55	1.70	7.44
30	6.76	1.14	6.74
32	6.07	0.91	6.07
34	5.46	0.93	5.44
36	4.93	1.04	4.87
38	4.46	1.16	4.36
40	4.05	1.25	3.90

Distância ao solo **h= 1.8 [m]**

Perfil Transversal da Densidade de Fluxo Magnético B



Projeto de Licenciamento

Cálculo do Campo Magnético a uma distância h do solo
Perfil Transversal do Campo Magnético μT

CABO DE GUARDA LIGADO À TERRA

DADOS

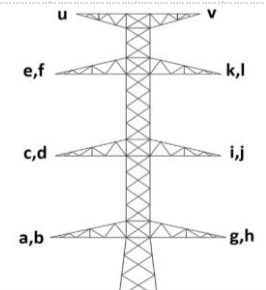
Apoios	DL
Cond. Geminados	Sim
Nº.de ternos	2

C.Condutor	ZAMBEZE
Diâmetro CC [mm]	31.80

C. Guarda	OPGW
Diâmetro CG [mm]	15.80

U_c [kV]	400
I [A]	1339

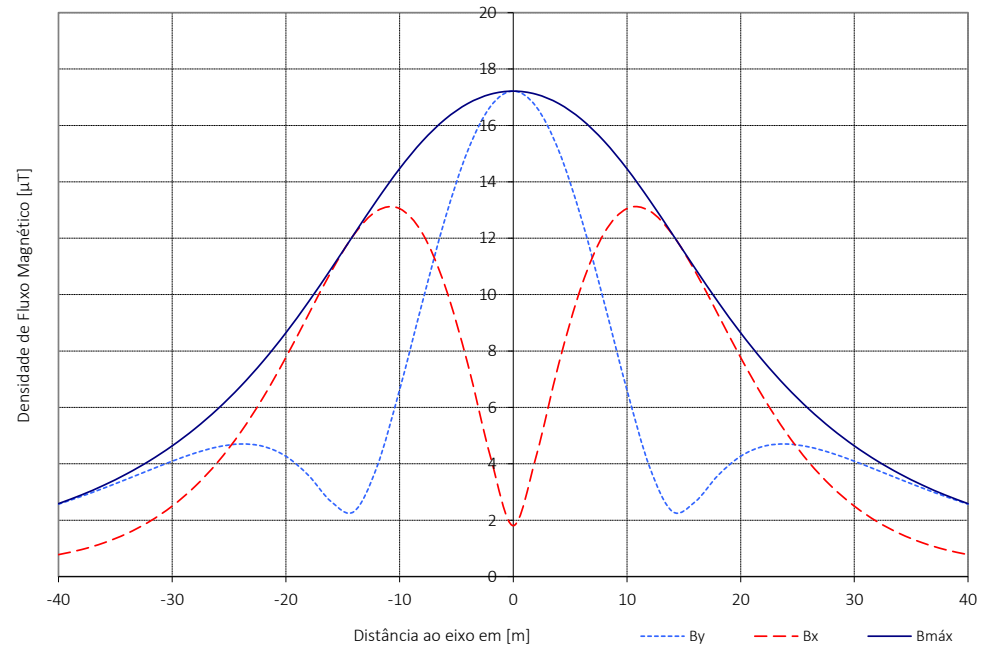
Geometria dos Cabos [m]			
Cond.	Fase	X	Y
a	0	-8.70	17.89
b	0	-8.30	17.89
c	4	-8.20	26.14
d	4	-7.80	26.14
e	8	-8.20	34.39
f	8	-7.80	34.39
g	8	8.30	17.89
h	8	8.70	17.89
i	4	7.80	26.14
j	4	8.20	26.14
k	0	7.80	34.39
l	0	8.20	34.39
u	-1	-6.00	40.49
v	1	6.00	40.49



xN	h= 1.8 [m]		
	Bmáx	Bx	By
-40	2.59	0.78	2.57
-38	2.89	0.95	2.84
-36	3.24	1.20	3.14
-34	3.64	1.52	3.45
-32	4.10	1.95	3.78
-30	4.64	2.50	4.09
-28	5.25	3.19	4.38
-26	5.94	4.06	4.60
-24	6.74	5.11	4.70
-22	7.64	6.35	4.62
-20	8.65	7.77	4.27
-18	9.75	9.30	3.58
-16	10.93	10.82	2.65
-14	12.15	12.13	2.31
-12	13.35	12.97	3.88
-10	14.47	13.05	6.62
-8	15.44	12.18	9.72
-6	16.22	10.30	12.69
-4	16.78	7.54	15.11
-2	17.11	4.24	16.67
0	17.22	1.81	17.22
2	17.11	4.24	16.67
4	16.78	7.54	15.11
6	16.22	10.30	12.69
8	15.44	12.18	9.72
10	14.47	13.05	6.62
12	13.35	12.97	3.88
14	12.15	12.13	2.31
16	10.93	10.82	2.65
18	9.75	9.30	3.58
20	8.65	7.77	4.27
22	7.64	6.35	4.62
24	6.74	5.11	4.70
26	5.94	4.06	4.60
28	5.25	3.19	4.38
30	4.64	2.50	4.09
32	4.10	1.95	3.78
34	3.64	1.52	3.45
36	3.24	1.20	3.14
38	2.89	0.95	2.84
40	2.59	0.78	2.57

Distância ao solo **h= 1.8 [m]**

Perfil Transversal da Densidade de Fluxo Magnético B



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 Perfil Transversal do Campo Magnético μT

CABO DE GUARDA LIGADO À TERRA

DADOS

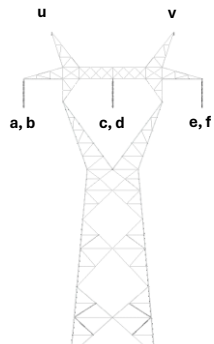
Apoios	Q
Cond. Geminados	Sim
Nº.de ternos	1

C.Condutor	ZAMBEZE
Diâmetro CC [mm]	31.80

C. Guarda	OPGW
Diâmetro CG [mm]	15.80

U_c [kV]	400
I [A]	1339

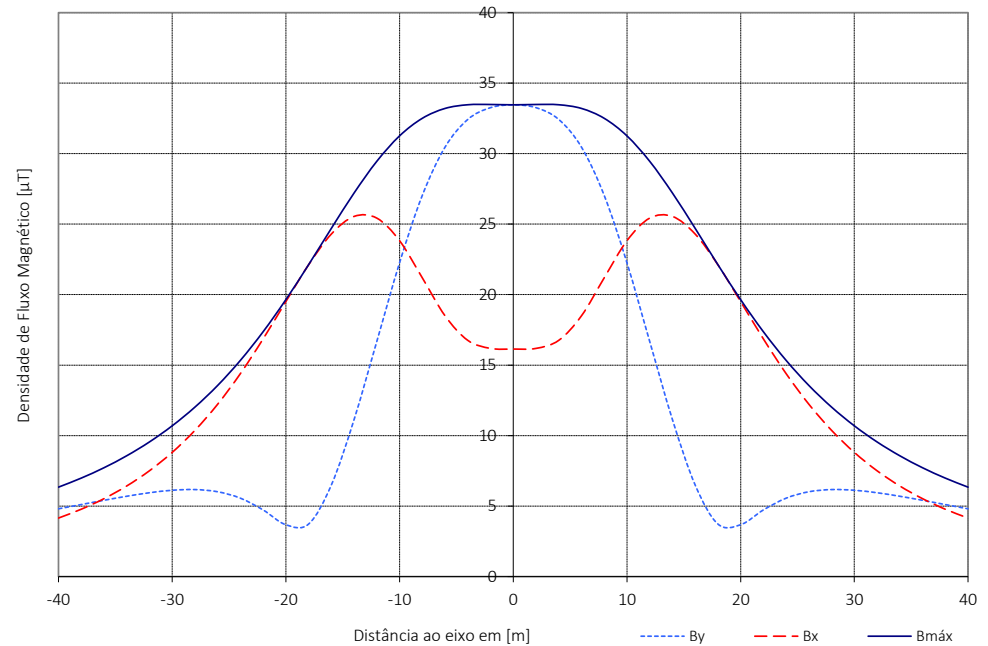
Geometria dos Cabos [m]			
Cond.	Fase	X	Y
a	0	-11.60	15.44
b	0	-11.20	15.44
c	4	-0.20	15.44
d	4	0.20	15.44
e	8	11.20	15.44
f	8	11.60	15.44
u	-1	-8.57	20.44
v	1	8.57	20.44



xN	h= 1.8 [m]		
	B _{máx}	B _x	B _y
-40	6.34	4.15	4.81
-38	6.98	4.78	5.11
-36	7.72	5.53	5.41
-34	8.57	6.43	5.70
-32	9.55	7.51	5.95
-30	10.69	8.81	6.12
-28	12.02	10.37	6.17
-26	13.56	12.23	6.02
-24	15.34	14.40	5.56
-22	17.37	16.86	4.73
-20	19.65	19.51	3.68
-18	22.12	22.12	3.73
-16	24.70	24.30	6.50
-14	27.21	25.55	11.14
-12	29.46	25.42	16.68
-10	31.26	23.82	22.26
-8	32.51	21.19	27.04
-6	33.20	18.50	30.46
-4	33.47	16.76	32.42
-2	33.49	16.18	33.26
0	33.46	16.14	33.46
2	33.49	16.18	33.26
4	33.47	16.76	32.42
6	33.20	18.50	30.46
8	32.51	21.19	27.04
10	31.26	23.82	22.26
12	29.46	25.42	16.68
14	27.21	25.55	11.14
16	24.70	24.30	6.50
18	22.12	22.12	3.73
20	19.65	19.51	3.68
22	17.37	16.86	4.73
24	15.34	14.40	5.56
26	13.56	12.23	6.02
28	12.02	10.37	6.17
30	10.69	8.81	6.12
32	9.55	7.51	5.95
34	8.57	6.43	5.70
36	7.72	5.53	5.41
38	6.98	4.78	5.11
40	6.34	4.15	4.81

Distância ao solo **h= 1.8 [m]**

Perfil Transversal da Densidade de Fluxo Magnético B



Projeto de Licenciamento

Cálculo do Campo Magnético a uma distância h do solo
 Perfil Transversal do Campo Magnético μT

CABO DE GUARDA LIGADO À TERRA

DADOS

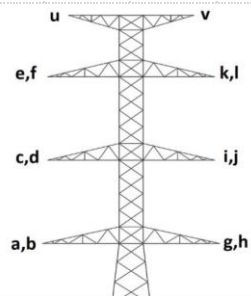
Apoios	DL
Cond. Geminados	Sim
Nº.de ternos	2

C. Condutor	ZAMBEZE
Diâmetro CC [mm]	31.80

C. Guarda	OPGW
Diâmetro CG [mm]	15.80

U_c [kV]	400
I [A]	1339

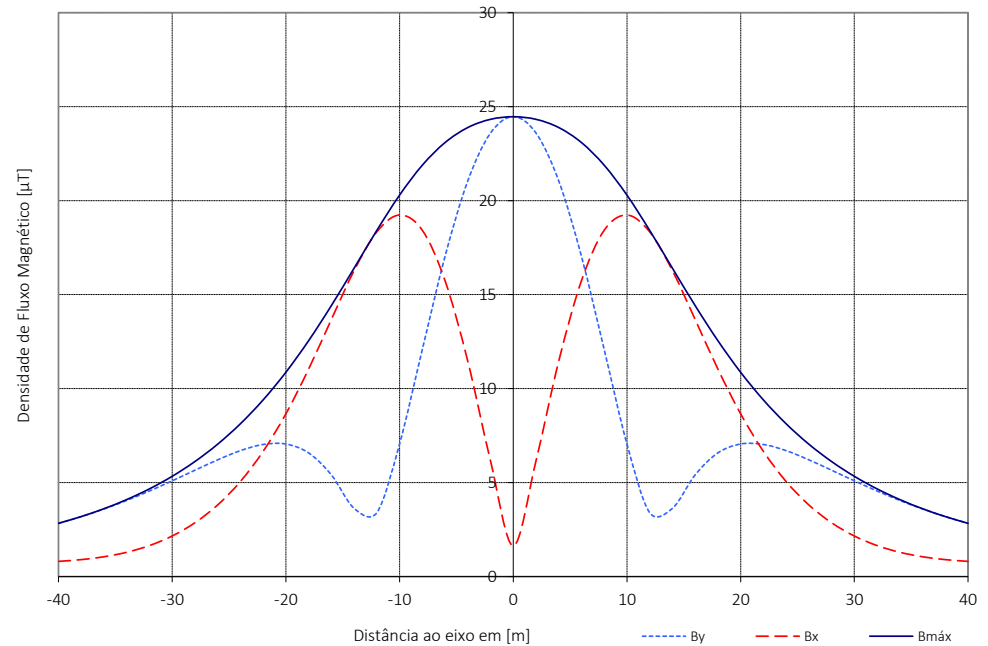
Geometria dos Cabos [m]			
Cond.	Fase	X	Y
a	0	-8.70	14.89
b	0	-8.30	14.89
c	4	-8.20	23.14
d	4	-7.80	23.14
e	8	-8.20	31.39
f	8	-7.80	31.39
g	8	8.30	14.89
h	8	8.70	14.89
i	4	7.80	23.14
j	4	8.20	23.14
k	0	7.80	31.39
l	0	8.20	31.39
u	-1	-6.00	37.52
v	1	6.00	37.52



xN	h= 1.8 [m]		
	B _{máx}	B _x	B _y
-40	2.83	0.81	2.83
-38	3.19	0.90	3.19
-36	3.61	1.05	3.60
-34	4.10	1.29	4.05
-32	4.67	1.65	4.55
-30	5.33	2.16	5.09
-28	6.12	2.86	5.66
-26	7.04	3.81	6.21
-24	8.13	5.06	6.70
-22	9.40	6.66	7.03
-20	10.87	8.66	7.05
-18	12.55	11.04	6.58
-16	14.41	13.68	5.41
-14	16.41	16.28	3.63
-12	18.42	18.34	3.40
-10	20.29	19.23	7.05
-8	21.88	18.42	12.08
-6	23.09	15.74	17.04
-4	23.89	11.46	21.05
-2	24.33	6.15	23.60
0	24.46	1.64	24.46
2	24.33	6.15	23.60
4	23.89	11.46	21.05
6	23.09	15.74	17.04
8	21.88	18.42	12.08
10	20.29	19.23	7.05
12	18.42	18.34	3.40
14	16.41	16.28	3.63
16	14.41	13.68	5.41
18	12.55	11.04	6.58
20	10.87	8.66	7.05
22	9.40	6.66	7.03
24	8.13	5.06	6.70
26	7.04	3.81	6.21
28	6.12	2.86	5.66
30	5.33	2.16	5.09
32	4.67	1.65	4.55
34	4.10	1.29	4.05
36	3.61	1.05	3.60
38	3.19	0.90	3.19
40	2.83	0.81	2.83

Distância ao solo **h= 1.8 [m]**

Perfil Transversal da Densidade de Fluxo Magnético B



Projeto de Licenciamento

Cálculo do Campo Magnético a uma distância h do solo
 Perfil Transversal do Campo Magnético μT

CABO DE GUARDA LIGADO À TERRA

DADOS

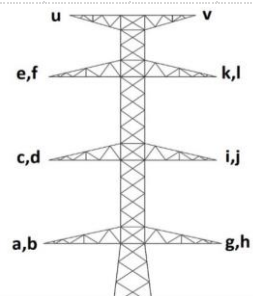
Apoios	DL	
Cond. Geminados	Não	Sim
Nº.de ternos	2	

C. Condutor	ZEBRA	ZAMBEZE
Diâmetro CC [mm]	28.62	31.80

C. Guarda	OPGW	OPGW
Diâmetro CG [mm]	15.80	15.80

U_c [kV]	220	400
I [A]	1140	1339

Geometria dos Cabos [m]			
Cond.	Fase	X	Y
a	0	-8.50	17.67
b	-	-	-
c	4	-8.00	25.92
d	-	-	-
e	8	-8.00	34.17
f	-	-	-
g	8	8.30	17.67
h	8	8.70	17.67
i	4	7.80	25.92
j	4	8.20	25.92
k	0	7.80	34.17
l	0	8.20	34.17
u	-1	-6.00	40.27
v	1	6.00	40.27



xN	h= 1.8 [m]		
	B _{máx}	B _x	B _y
-40	1.17	1.17	0.09
-38	1.31	1.30	0.11
-36	1.47	1.47	0.15
-34	1.66	1.66	0.21
-32	1.90	1.89	0.28
-30	2.18	2.18	0.37
-28	2.53	2.53	0.48
-26	2.95	2.95	0.61
-24	3.47	3.46	0.79
-22	4.10	4.07	1.03
-20	4.86	4.78	1.41
-18	5.79	5.57	2.01
-16	6.88	6.37	2.94
-14	8.14	7.05	4.32
-12	9.53	7.40	6.18
-10	11.00	7.17	8.46
-8	12.48	6.14	10.94
-6	13.91	4.23	13.29
-4	15.22	1.58	15.16
-2	16.41	2.17	16.28
0	17.45	5.94	16.42
2	18.30	9.89	15.41
4	18.90	13.57	13.16
6	19.15	16.48	9.78
8	18.98	18.15	5.64
10	18.37	18.34	1.71
12	17.38	17.15	3.20
14	16.11	14.99	6.11
16	14.70	12.39	8.08
18	13.27	9.78	9.12
20	11.89	7.41	9.43
22	10.62	5.42	9.26
24	9.47	3.82	8.78
26	8.45	2.59	8.14
28	7.55	1.70	7.44
30	6.76	1.14	6.74
32	6.07	0.91	6.07
34	5.46	0.93	5.44
36	4.93	1.04	4.87
38	4.46	1.16	4.36
40	4.05	1.25	3.90

Distância ao solo **h= 1.8 [m]**

Perfil Transversal da Densidade de Fluxo Magnético B

