

## EMIÇÃO DE RADIAÇÃO ELECTROMAGNÉTICA

### Cálculo do Campo Magnético de Linhas MAT

#### DADOS

Apoios :	<b>CW</b>
Cond. Geminados:	NÃO
Nº.de ternos:	2

C.Condutor: ZEBRA	
Diâmetro CC [m] =	2.862E-02

C. Guarda: DORKING	
Diâmetro CG [m] =	1.60E-02

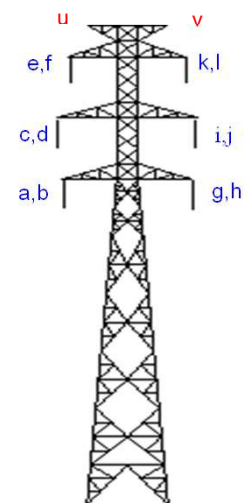
I = 1141.00	[A]
Uc = 150.00	[kV]

#### GEOMETRIA DOS CABOS [m]

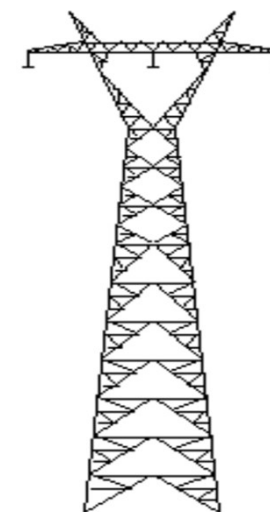
	Fase	X	Y	Ynom.
a:	0	-5.50	10.00	38.06
b:		0.00	0.00	0.00
c:	4	-6.00	16.40	44.46
d:		0.00	0.00	0.00
e:	8	-5.00	22.80	50.86
f:		0.00	0.00	0.00
g:	8	5.50	10.00	38.06
h:		0.00	0.00	0.00
i:	4	6.00	16.40	44.46
j:		0.00	0.00	0.00
k:	0	5.00	22.80	50.86
l:		0.00	0.00	0.00
u:	-1	-3.30	28.54	56.60
v:	-1	3.30	28.54	56.60

Correcção: -28.06

Silhueta 1



Silhueta 2

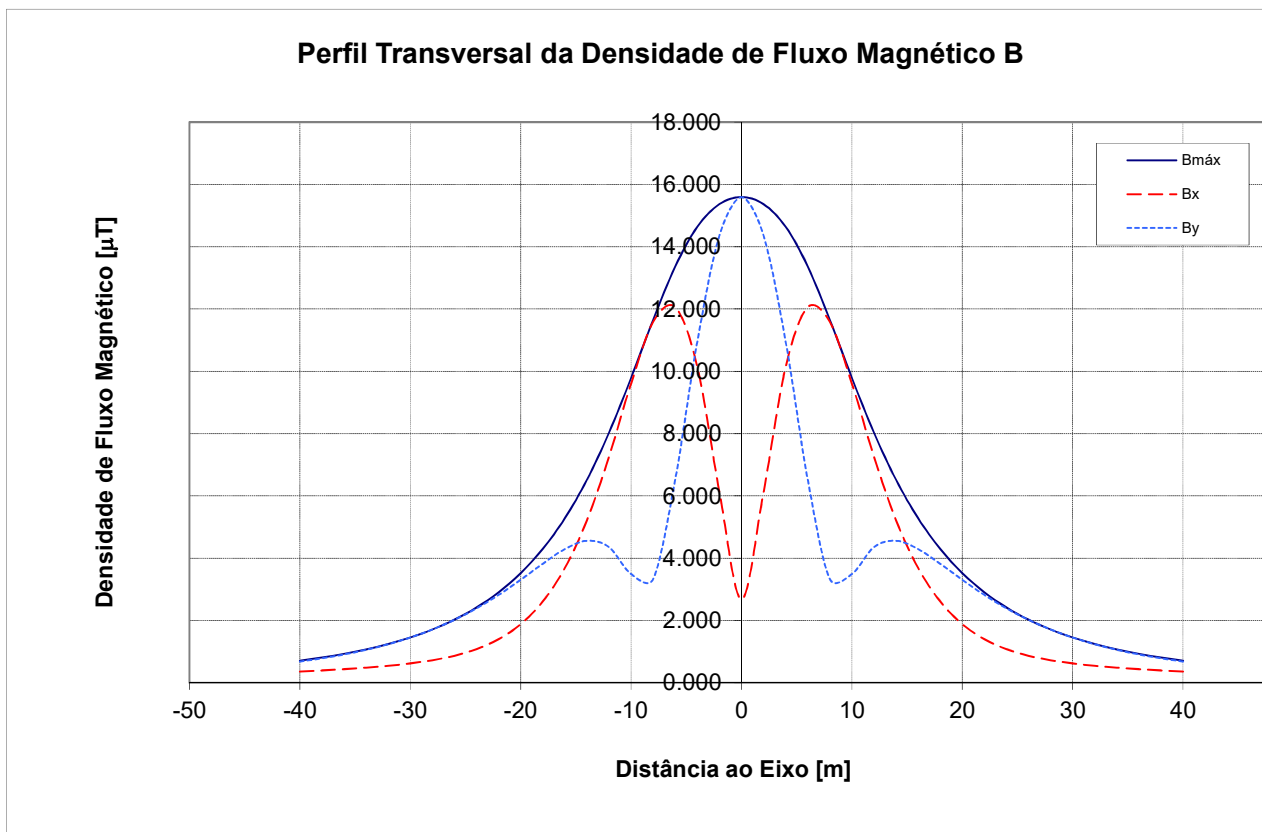


### Campo Magnético a uma distância h do solo

Distância ao solo h = 1 [m]

#### CABO DE GUARDA LIGADO À TERRA

xN	h = 1 [m]		
	B <sub>máx</sub>	B <sub>x</sub>	B <sub>y</sub>
-40	0.714	0.362	0.682
-38	0.814	0.399	0.787
-36	0.933	0.440	0.911
-34	1.076	0.489	1.060
-32	1.248	0.549	1.239
-30	1.458	0.625	1.455
-28	1.713	0.727	1.713
-26	2.028	0.871	2.023
-24	2.419	1.083	2.391
-22	2.908	1.402	2.822
-20	3.523	1.885	3.308
-18	4.301	2.612	3.824
-16	5.285	3.686	4.294
-14	6.519	5.220	4.561
-12	8.030	7.259	4.357
<b>-10</b>	<b>9.789</b>	<b>9.609</b>	<b>3.493</b>
-8	11.656	11.590	3.333
-6	13.366	12.062	6.529
-4	14.641	10.141	10.958
-2	15.365	6.126	14.357
<b>0</b>	<b>15.590</b>	<b>2.675</b>	<b>15.590</b>
2	15.365	6.126	14.357
4	14.641	10.141	10.958
6	13.366	12.062	6.529
8	11.656	11.590	3.333
<b>10</b>	<b>9.789</b>	<b>9.609</b>	<b>3.493</b>
12	8.030	7.259	4.357
14	6.519	5.220	4.561
16	5.285	3.686	4.294
18	4.301	2.612	3.824
20	3.523	1.885	3.308
22	2.908	1.402	2.822
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26	2.028	0.871	2.023
28	1.713	0.727	1.713
30	1.458	0.625	1.455
32	1.248	0.549	1.239
34	1.076	0.489	1.060
36	0.933	0.440	0.911
38	0.814	0.399	0.787
40	0.714	0.362	0.682



## EMIÇÃO DE RADIAÇÃO ELECTROMAGNÉTICA

Cálculo do Campo Magnético de Linhas MAT

### DADOS

Apoios :	DV
Cond. Geminados:	SIM
Nº.de ternos:	3

C. Condutor: ZAMBEZE
Diâmetro CC [m] = 3.180E-02

C. Guarda: DORKING
Diâmetro CG [m] = 1.60E-02

I = 2680.00 [A]
Uc = 400.00 [kV]

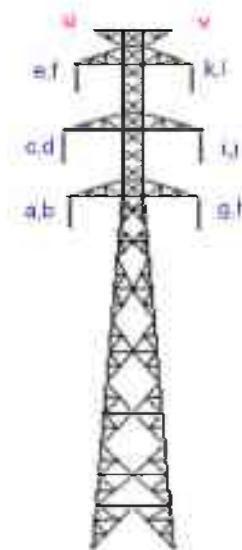
Silhueta Utilizada
número 1

### GEOMETRIA DOS CABOS [m]

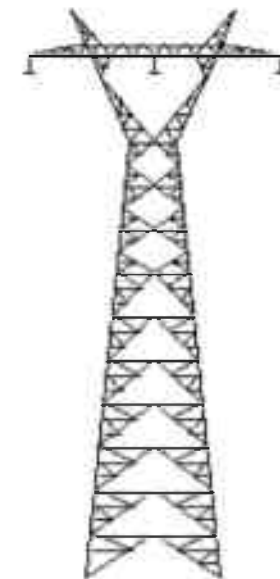
	Fase	X	Y	Ynom.
a:	0	-16.06	23.90	33.50
b:	4	-17.40	14.00	23.60
c:	8	-10.31	14.00	23.60
d:	0	0.00	14.00	23.60
e:	4	-3.55	23.90	33.50
f:	8	3.55	23.90	33.50
g:	0	15.86	23.90	33.50
h:	0	16.26	23.90	33.50
i:	4	11.30	14.00	23.60
j:	4	11.70	14.00	23.60
k:	8	20.40	14.00	23.60
l:	8	20.80	14.00	23.60
u:	-1	-14.25	32.70	42.30
v:	-1	14.25	32.70	42.30

Correcção: -9.60

Silhueta 1



Silhueta 2



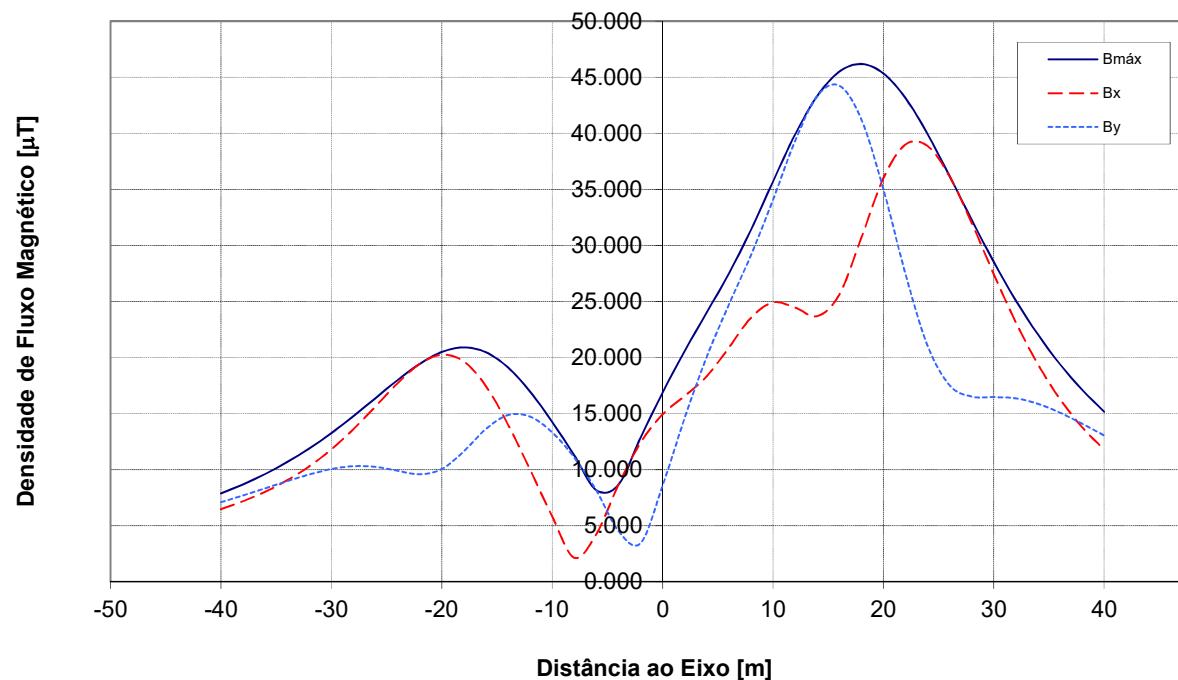
### Campo Magnético a uma distância h do solo

Distância ao solo **h= 1 [m]**

#### CABO DE GUARDA LIGADO À TERRA

xN	h= 1 [m]		
	B <sub>máx</sub>	B <sub>x</sub>	B <sub>y</sub>
-40	7.882	6.485	7.102
-38	8.690	7.192	7.706
-36	9.619	8.036	8.342
-34	10.684	9.057	8.983
-32	11.899	10.303	9.580
-30	13.269	11.817	10.058
-28	14.779	13.617	10.315
-26	16.385	15.648	10.259
-24	17.991	17.715	9.908
-22	19.437	19.432	9.601
-20	20.494	20.250	10.055
-18	20.908	19.649	11.642
-16	20.473	17.456	13.631
-14	19.118	14.025	14.871
-12	16.959	10.002	14.733
<b>-10</b>	<b>14.260</b>	<b>5.841</b>	<b>13.330</b>
-8	11.287	2.149	11.087
-6	8.181	4.261	8.157
-4	8.661	8.654	4.540
-2	12.844	12.397	3.446
<b>0</b>	<b>16.870</b>	<b>14.935</b>	<b>8.570</b>
2	20.578	16.570	14.606
4	24.021	18.330	20.069
6	27.485	20.879	24.707
8	31.372	23.534	29.115
<b>10</b>	<b>35.691</b>	<b>24.916</b>	<b>34.056</b>
12	39.886	24.461	39.300
14	43.307	23.687	43.303
16	45.487	25.597	44.244
18	46.176	30.654	41.260
20	45.335	35.984	35.008
22	43.138	38.996	27.457
24	39.939	38.863	21.069
26	36.183	36.154	17.527
28	32.280	32.004	16.517
30	28.527	27.444	16.477
32	25.095	23.139	16.359
34	22.053	19.398	15.878
36	19.407	16.296	15.085
38	17.127	13.789	14.106
40	15.172	11.784	13.051

### Perfil Transversal da Densidade de Fluxo Magnético B





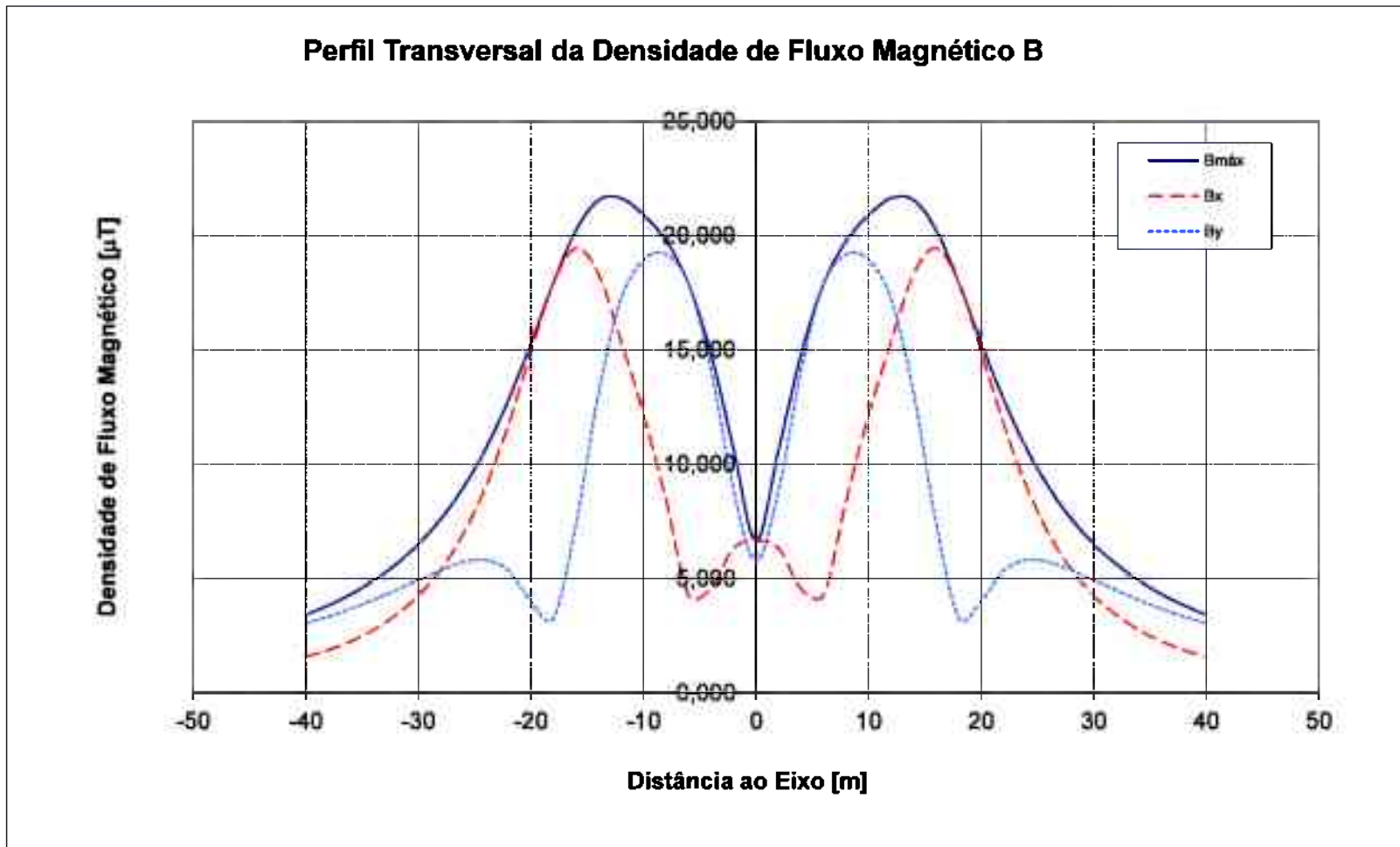


# Densidade de Fluxo Magnético a uma distância h do solo

Distância ao solo h= 1,8 [m]

## CABO DE GUARDA LIGADO À TERRA

h= 1,8 [m]			
xN	B <sub>máx</sub>	B <sub>x</sub>	B <sub>y</sub>
-40	3,411	1,571	3,029
-38	3,822	1,872	3,334
-36	4,312	2,256	3,678
-34	4,903	2,750	4,063
-32	5,623	3,397	4,487
-30	6,508	4,254	4,935
-28	7,607	5,404	5,372
-26	8,982	6,956	5,717
-24	10,700	9,038	5,804
-22	12,813	11,735	5,338
-20	15,300	14,923	4,007
-18	17,941	17,940	3,286
-16	20,231	19,436	7,393
-14	21,541	18,319	13,102
-12	21,628	15,366	17,218
-10	20,890	12,180	18,926
-8	19,753	8,416	19,180
-6	17,891	4,277	17,891
-4	14,808	4,552	14,134
-2	10,638	6,315	8,860
0	6,628	6,628	5,757
2	10,638	6,315	8,860
4	14,808	4,552	14,134
6	17,891	4,277	17,891
8	19,753	8,416	19,180
10	20,890	12,180	18,926
12	21,628	15,366	17,218
14	21,541	18,319	13,102
16	20,231	19,436	7,393
18	17,941	17,940	3,286
20	15,300	14,923	4,007
22	12,813	11,735	5,338
24	10,700	9,038	5,804
26	8,982	6,956	5,717
28	7,607	5,404	5,372
30	6,508	4,254	4,935
32	5,623	3,397	4,487
34	4,903	2,750	4,063
36	4,312	2,256	3,678
38	3,822	1,872	3,334
40	3,411	1,571	3,029



## EMISSÃO DE RADIAÇÃO ELECTROMAGNÉTICA

Cálculo do Campo Magnético de Linhas MAT

### DADOS

Apoios :	<b>DL</b>
Cond. Geminados:	SIM
Nº.de ternos:	2

C. Condutor: ZAMBEZE
Diâmetro CC [m] = 3.180E-02

C. Guarda: DORKING
Diâmetro CG [m] = 1.60E-02

I = 2680.00 [A]
Uc = 400.00 [kV]

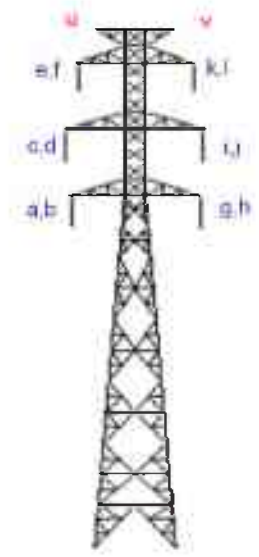
Silhueta Utilizada
número 1

### GEOMETRIA DOS CABOS [m]

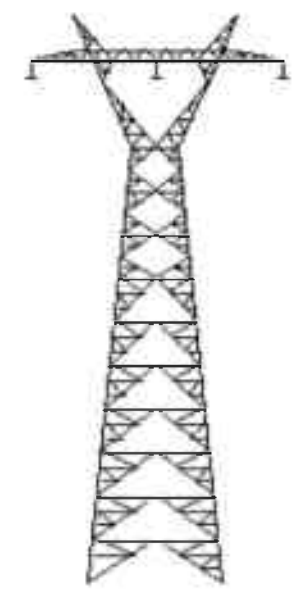
	Fase	X	Y	Ynom.
a:	0	-6.90	14.00	45.00
b:	0	-6.50	14.00	45.00
c:	4	-6.60	22.25	53.25
d:	4	-6.20	22.25	53.25
e:	8	-6.60	30.50	61.50
f:	8	-6.20	30.50	61.50
g:	8	6.50	14.00	45.00
h:	8	6.90	14.00	45.00
i:	4	6.20	22.25	53.25
j:	4	6.60	22.25	53.25
k:	0	6.20	30.50	61.50
l:	0	6.60	30.50	61.50
u:	-1	-4.05	33.80	64.80
v:	-1	4.05	33.80	64.80

Correcção: -31.00

Silhueta 1



Silhueta 2



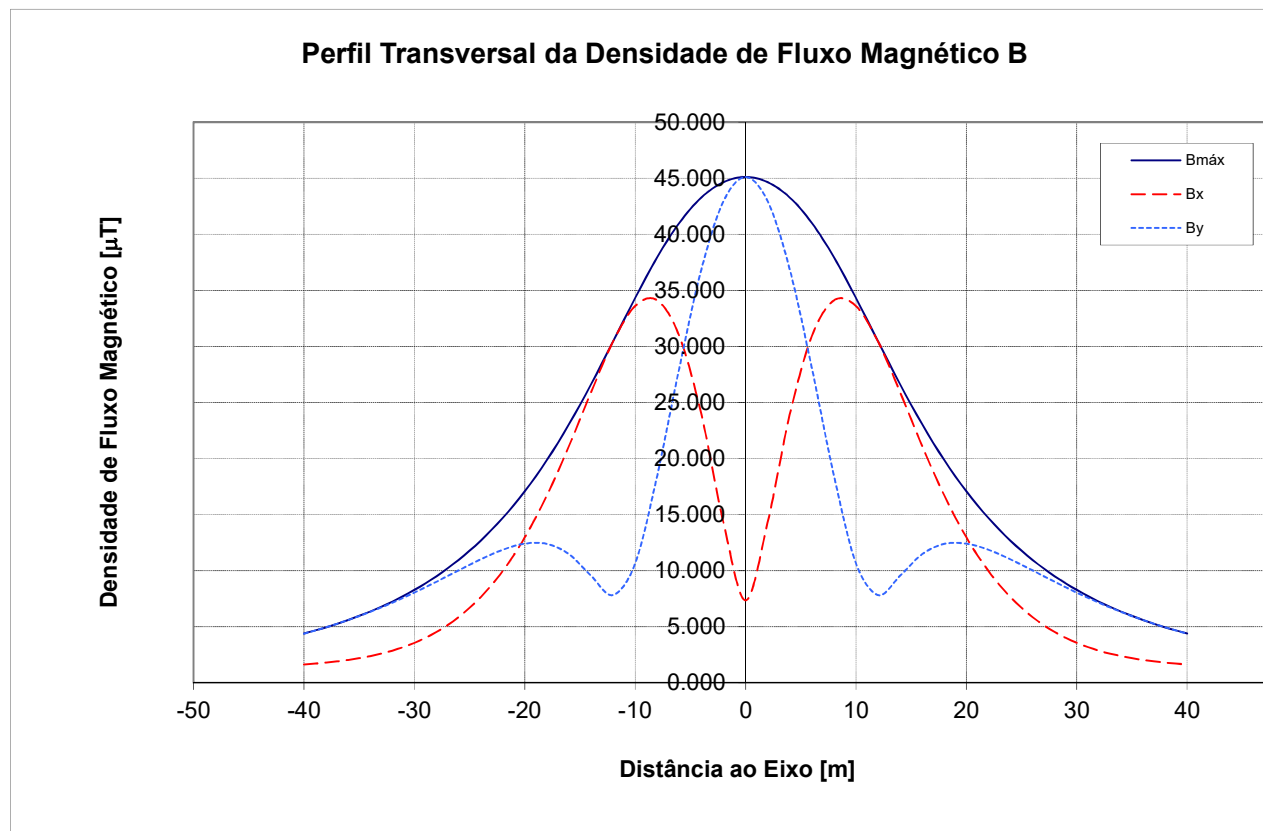


### Campo Magnético a uma distância h do solo

Distância ao solo h= 1 [m]

#### CABO DE GUARDA LIGADO À TERRA

xN	h= 1 [m]		
	B <sub>máx</sub>	B <sub>x</sub>	B <sub>y</sub>
-40	4.402	1.636	4.389
-38	4.958	1.806	4.956
-36	5.605	2.043	5.602
-34	6.360	2.384	6.330
-32	7.245	2.873	7.146
-30	8.285	3.567	8.045
-28	9.511	4.535	9.016
-26	10.960	5.860	10.026
-24	12.673	7.636	11.013
-22	14.697	9.973	11.869
-20	17.079	12.975	12.415
-18	19.858	16.705	12.390
-16	23.047	21.111	11.481
-14	26.612	25.906	9.555
-12	30.441	30.432	7.828
<b>-10</b>	<b>34.320</b>	<b>33.602</b>	<b>10.645</b>
-8	37.949	34.103	18.498
-6	41.016	30.915	28.092
-4	43.283	23.909	36.885
-2	44.647	14.290	42.949
<b>0</b>	<b>45.099</b>	<b>7.359</b>	<b>45.099</b>
2	44.647	14.290	42.949
4	43.283	23.909	36.885
6	41.016	30.915	28.092
8	37.949	34.103	18.498
<b>10</b>	<b>34.320</b>	<b>33.602</b>	<b>10.645</b>
12	30.441	30.432	7.828
14	26.612	25.906	9.555
16	23.047	21.111	11.481
18	19.858	16.705	12.390
20	17.079	12.975	12.415
22	14.697	9.973	11.869
24	12.673	7.636	11.013
26	10.960	5.860	10.026
28	9.511	4.535	9.016
30	8.285	3.567	8.045
32	7.245	2.873	7.146
34	6.360	2.384	6.330
36	5.605	2.043	5.602
38	4.958	1.806	4.956
40	4.402	1.636	4.389







## EMISSÃO DE RADIAÇÃO ELECTROMAGNÉTICA

Cálculo do Campo Magnético de Linhas MAT

### DADOS

Apoios :	DV
Cond. Geminados:	SIM
Nº.de ternos:	3

C Condutor:	ZAMBEZE
Diâmetro CC [m] =	3.180E-02

C. Guarda:	DORKING
Diâmetro CG [m] =	1.60E-02

I =	2680.00	[A]
Uc =	400.00	[kV]

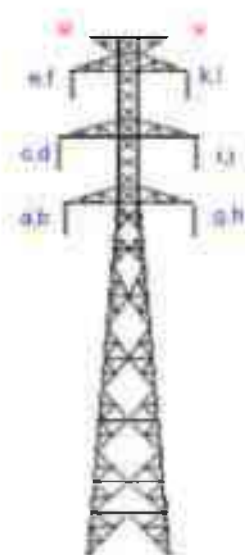
Silhueta Utilizada
número 1

### GEOMETRIA DOS CABOS [m]

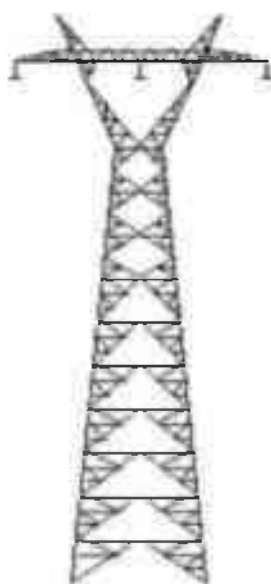
	Fase	X	Y	Ynom.
a:	0	-16.06	23.90	33.50
b:	4	-17.40	14.00	23.60
c:	8	-10.31	14.00	23.60
d:	0	0.00	14.00	23.60
e:	4	-3.55	23.90	33.50
f:	8	3.55	23.90	33.50
g:	0	15.86	23.90	33.50
h:	0	16.26	23.90	33.50
i:	4	11.30	14.00	23.60
j:	4	11.70	14.00	23.60
k:	8	20.40	14.00	23.60
l:	8	20.80	14.00	23.60
u:	-1	-14.25	32.70	42.30
v:	-1	14.25	32.70	42.30

Correcção: -9.60

**Silhueta 1**



**Silhueta 2**



### Campo Magnético a uma distância h do solo

Distância ao solo **h= 1 [m]**

#### CABO DE GUARDA LIGADO À TERRA

xN	h= 1 [m]		
	B <sub>máx</sub>	B <sub>x</sub>	B <sub>y</sub>
-40	7.882	6.485	7.102
-38	8.690	7.192	7.706
-36	9.619	8.036	8.342
-34	10.684	9.057	8.983
-32	11.899	10.303	9.580
-30	13.269	11.817	10.058
-28	14.779	13.617	10.315
-26	16.385	15.648	10.259
-24	17.991	17.715	9.908
-22	19.437	19.432	9.601
-20	20.494	20.250	10.055
-18	20.908	19.649	11.642
-16	20.473	17.456	13.631
-14	19.118	14.025	14.871
-12	16.959	10.002	14.733
<b>-10</b>	<b>14.260</b>	<b>5.841</b>	<b>13.330</b>
-8	11.287	2.149	11.087
-6	8.181	4.261	8.157
-4	8.661	8.654	4.540
-2	12.844	12.397	3.446
<b>0</b>	<b>16.870</b>	<b>14.935</b>	<b>8.570</b>
2	20.578	16.570	14.606
4	24.021	18.330	20.069
6	27.485	20.879	24.707
8	31.372	23.534	29.115
<b>10</b>	<b>35.691</b>	<b>24.916</b>	<b>34.056</b>
12	39.886	24.461	39.300
14	43.307	23.687	43.303
16	45.487	25.597	44.244
18	46.176	30.654	41.260
20	45.335	35.984	35.008
22	43.138	38.996	27.457
24	39.939	38.863	21.069
26	36.183	36.154	17.527
28	32.280	32.004	16.517
30	28.527	27.444	16.477
32	25.095	23.139	16.359
34	22.053	19.398	15.878
36	19.407	16.296	15.085
38	17.127	13.789	14.106
40	15.172	11.784	13.051

### Perfil Transversal da Densidade de Fluxo Magnético B

