



1	1
2	11
3	12
4	13
5	14
6	15
7	17
8	20
9	23
10	27
11	35
12	56
13	63

1

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4-1

4-2

4-3

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7

8

9 2021

10

11

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7



* WINC@P\$ DWA\$

		"		"		
	3		5		XXHA- 2505	XGQ- 3005
X				2007 1		
[2007] 8		2013 3		[2013] 23		XXG- 3005
X				XXQ- 2505	XXHA- 2005	X
			2008 1			[2008] 64
2009 10			[2009] 70			
	2 X		X			2
	XXH- 1005		XXQ- 1005	2019 12		

2021

16 2021 1 1

" -172

- "

X

2019

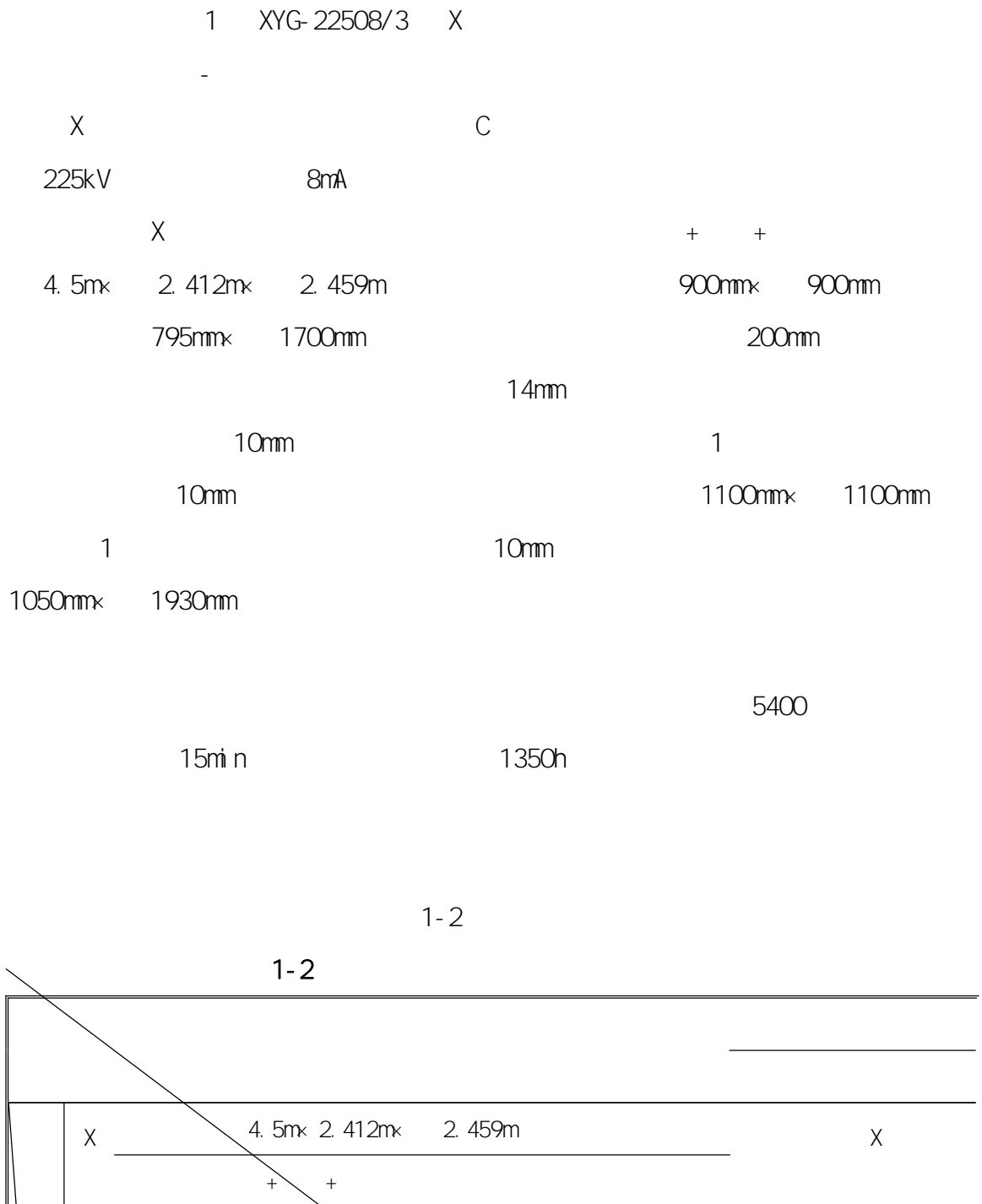
29 2020 1 1

< 2019 >

49 2021 12 30

" " 6 "

X



1-4

1-4

1	X		XYG- 22508/3			225kV/8mA	1		

239

2

2

239

40m

8m

15m

25m

38m

48m

50m

5m

12m

30m

43m

49m

8m

40m

48m

25m

50m

5m

20m

50m

X

X

X

2

1

1

8

250

<http://fushe.mee.gov.cn>

1

3

5

XXHA-2505

XGQ-3005

X

2007 1

[2007] 8	2013 3	[2013] 23
XXG- 3005 X		XXQ- 2505 XXHA- 2005
X		2008 1
[2008] 64	2009 10	[2009] 70
	2 X	X
2	XXH- 1005	XXQ- 1005 2019 12
[2019] 139	2021 4	1-1



10

1-6

1-6

(6) :

7 2021 (ZYJ[]202103036)
X- 0.057 0.133 uSv/h,
X- 0.040 0.098 uSv/h
2.5uSv/h 5 (5mSv/a
0.1mSv/a) X
2
(5mSv/a
0.1mSv/a)

8
9 :

1
GB8978-1996

2

1					2015	1	1	
2					2018	12	29	
3					2003	10	1	
4					682			2017 10 1
5								449 2005
12	1		2019	3	2			
			709					
6								
					2016	6	1	
7								2021
16	2021	1	1					
8								2017
4	2017	11	22					
9								
	31		2021	1	4			
10								18
	2011	5	1					
11								
			[2006]	145				2006
9	26							
12								
[2012]	77				2012	7	3	
13								2017
66								
14					2021			2021 1 1
15								
			2019	57				

1					
		HJ10.1-2016			
2					GB18871-2002
3					HJ1157-2021
4				HJ 61-2021	
5					GBZ128-2019
6	500kV		X		(GB21848-2008)
7	X				GBZ/T250-2014
8	X				GBZ 117-2015
1					
2				—	1987
3					
4		<			2016 >
		2016	1400		

HJ10. 1- 2016

HJ 61- 2021

50m

7-1

		2	2		5.0
		8	3		0.1
		15	5		0.1
		25	5		0.1
		38	2		5.0
		48	20		0.1
		5	1		0.1
		12	5		0.1
		30	2		0.1
		43	2		0.1
		49	5		0.1

7-1

		8	15		0.1
		40	30		0.1
		48	30		0.1
		25	5		0.1
		5	2		0.1
		20	5		0.1
		50	2		0.1
		5	1		0.1

1 GB3095- 2012

2 GB3838- 2002

3 GB3096- 2008 2

1 GB16297- 1996

2 GB8978- 1996

3 GB12523- 2011

GB12348- 2008 2

4

GB18599- 2020

GB18597- 2001

2013

1

GB18871-2002

4.3.2.1

5

20nSv

1/4

5nSv/a

2

B1.2.1

1nSv

1/10

0.1nSv/a

X

GBZ/T250-2014

30cm

2.5μGy/h

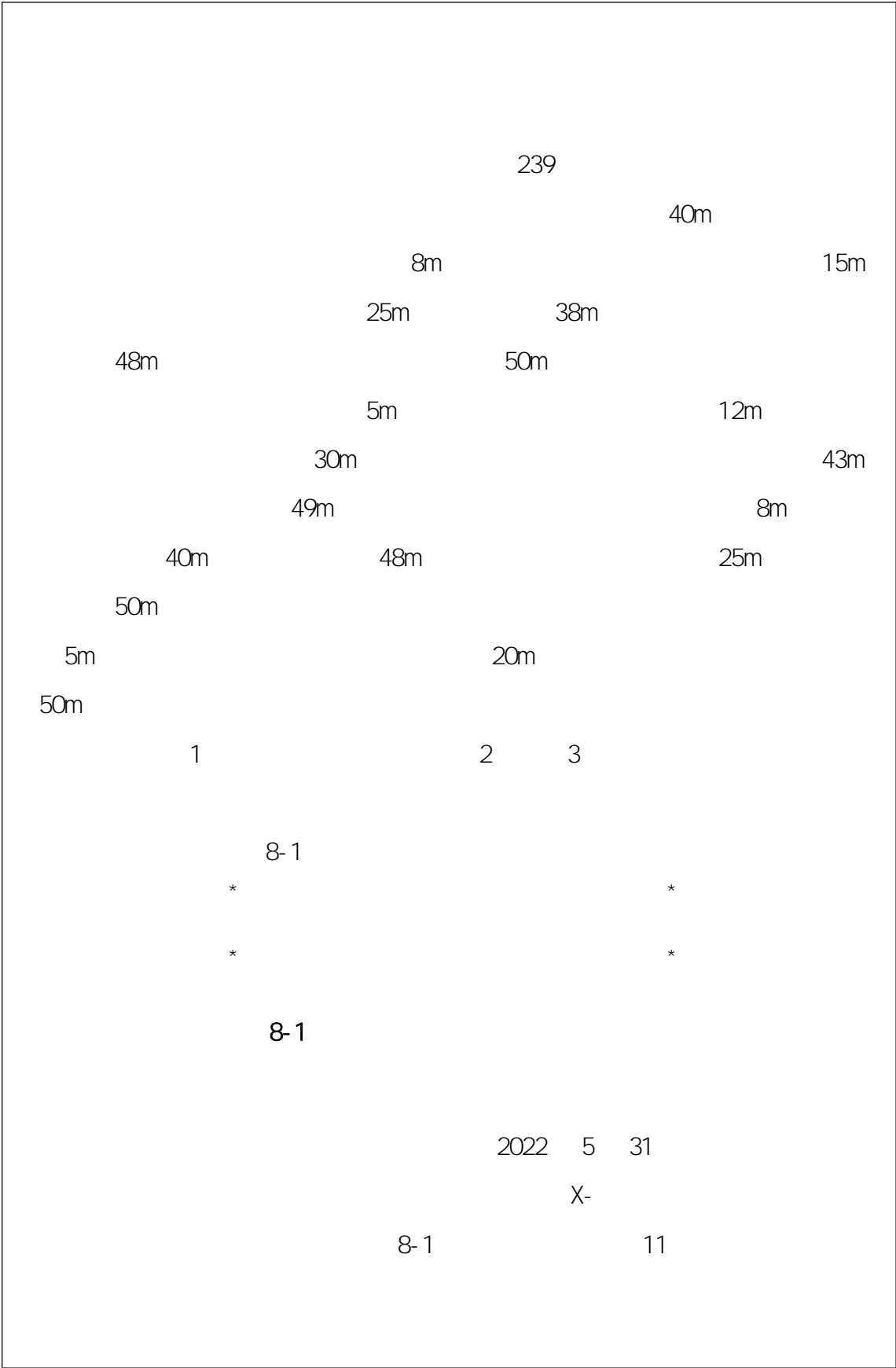
1

GBZ2.1-2019

0.30mg/m³

GB3095 2012

0.20mg/m³



8-1

			/	
X-	NT6101 X- TJHJ2021-49	48KeV 3MeV : 10nGy/h 200μ Gy/h	: : 202107001906 2021. 7. 7 : 202107000160 2021. 7. 1	: : 24. 8 : 56%

1

162312050547

2022 11 10

2

3

8-2

nGy/h

1#		■	■
2#		■	■

3#		■	■	
4#		■	■	
5#		■	■	
6#		■	■	
7#		■	■	

■ nGy/h ■ nGy/h

2020

67.5nGy/h 121.3nGy/h

X

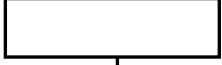
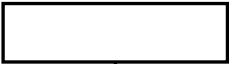
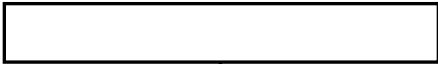
X

X

X

9-2

9-3



9-2

X

9-3

5400

15min

1350h

1000mm

4000mm

210mm

800mm

20mm

X



9-4

X

X

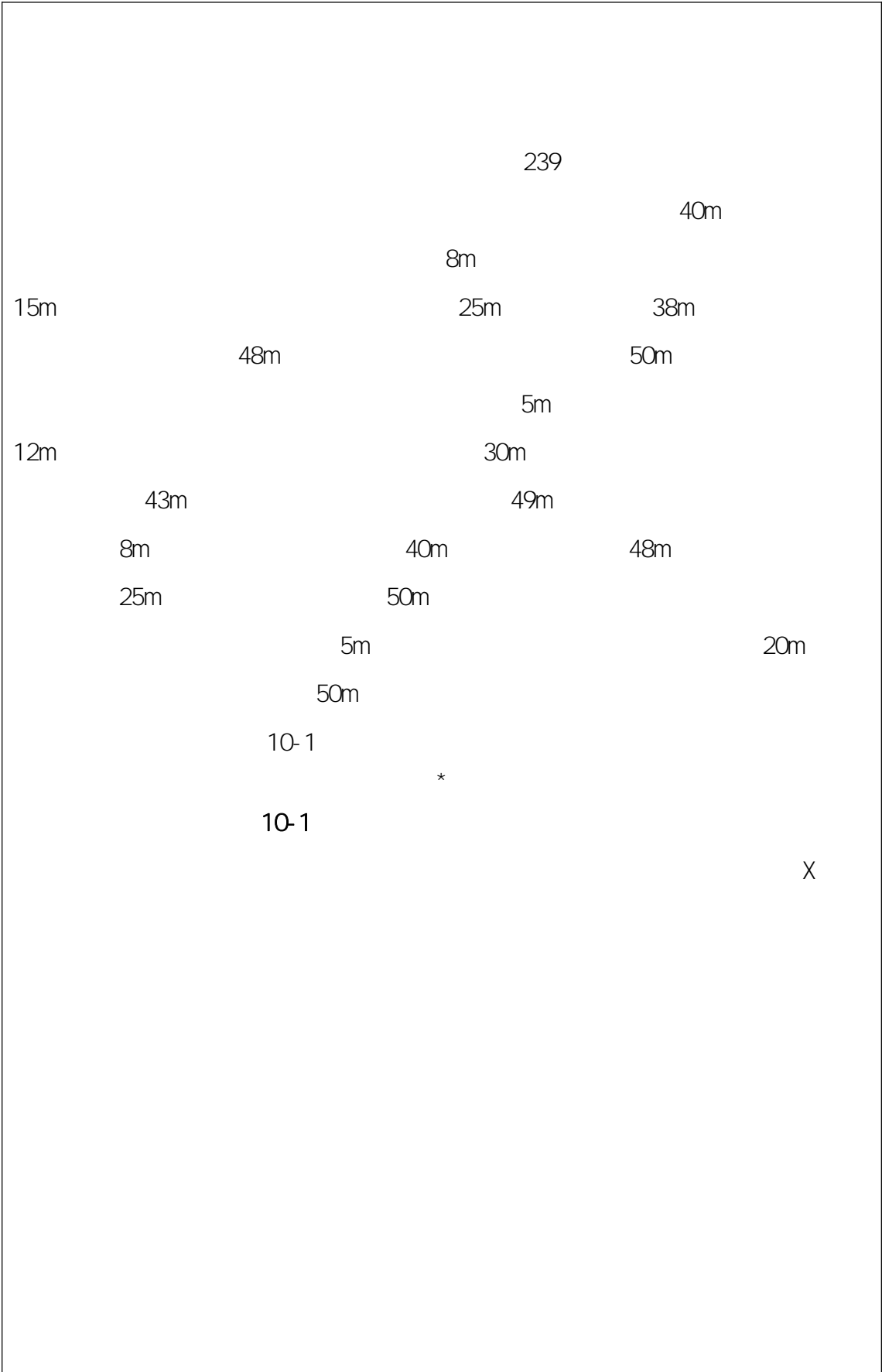
0.1m³/d

GB8978-1996

1kg/d

X

X



1

10-1

10-1

" "

		1
	GB18871-2002 6. 4. 1. 4c F	GB18871-2002 6. 4. 2. 2b

10-2

10-2

--	--	--	--	--	--

10mm

380m³/h

60dB A

2

X

" ON"

X

"

"

X

X

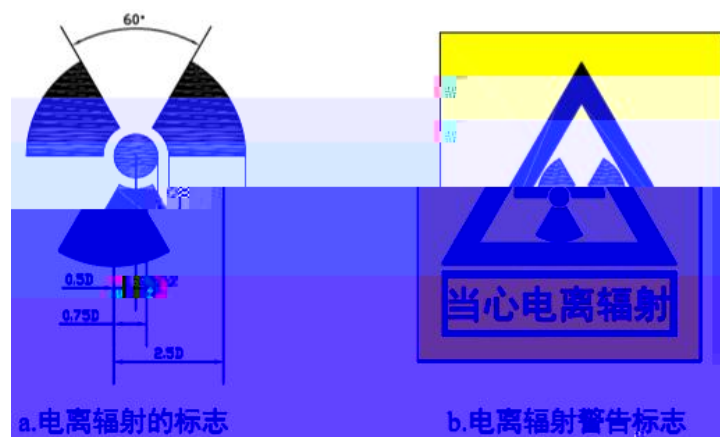
X

X

X

X

10-3



10-3

	" "	

10-3

10-4

10-4

X		1	█
		2	
		1	
		1	█
		1	█
		1	█

		1	█	
			█	
		2	█	
		2 1	█	1 1
		1	█	
		1	█	
			█	
			█	
			█	
			█	---



X

GB8978-1996

X

GB12348-2008

449

33

"

"

"

"

X

X

X

X

X

<http://rr.me.gov.cn>



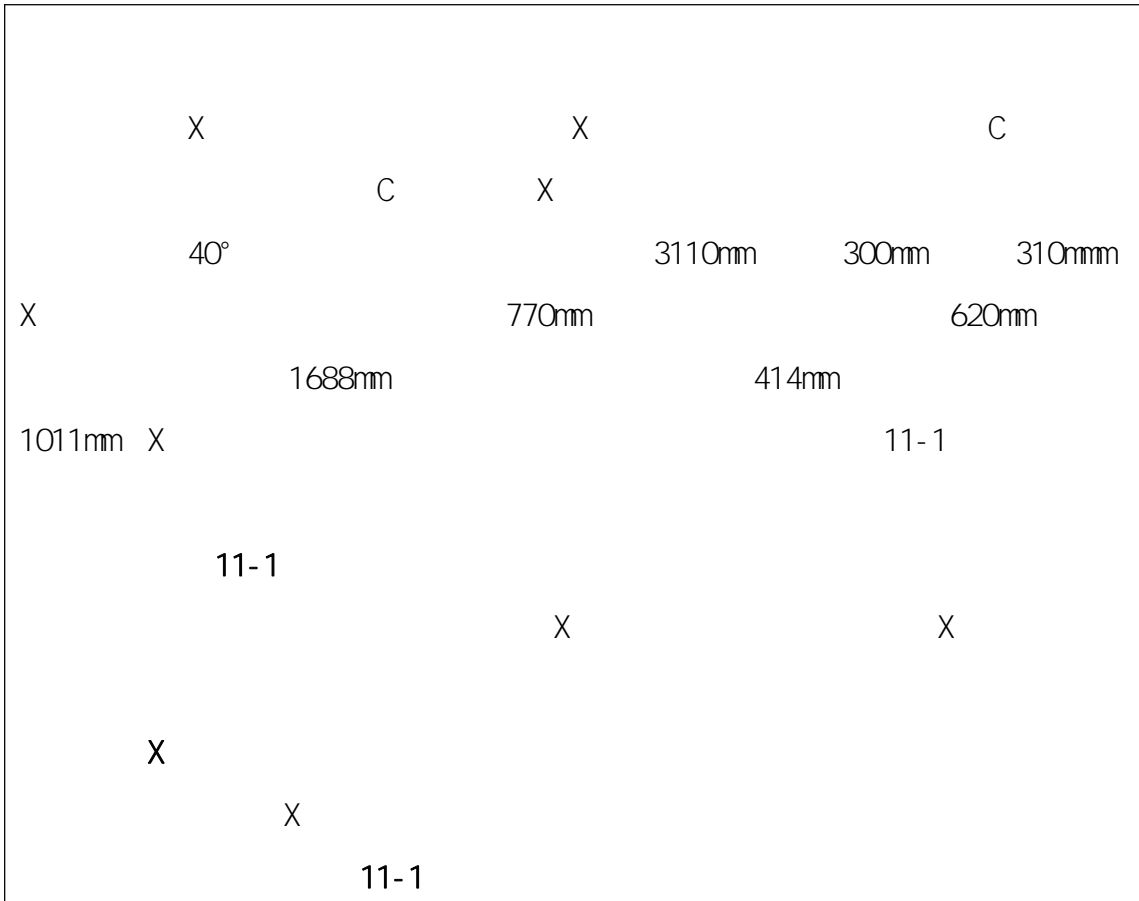
1

2

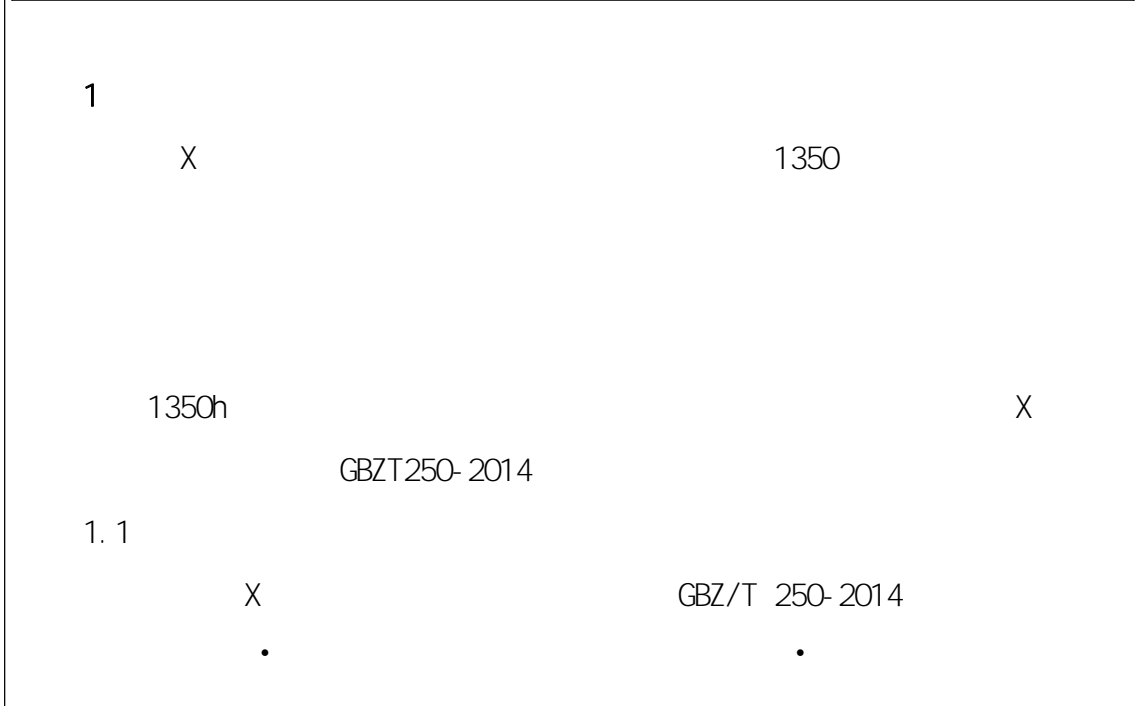
m

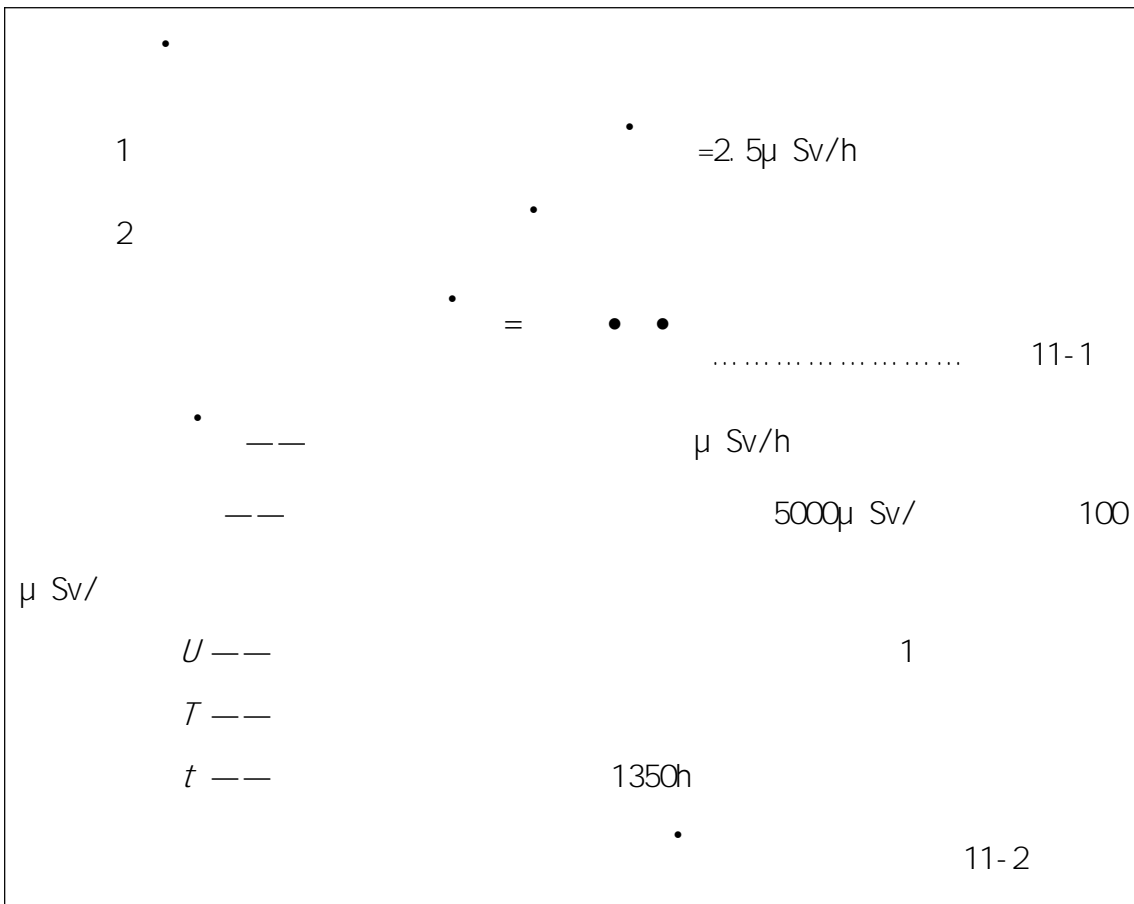
Ä 3

4



1	X		XYG-22508/3	225kV 8mA		40° × 30°	25mm	15mi n/	1350h





				μ Sv/h	(μ Sv/h)	(μ Sv/h)
30cm	1	1		3.7	2.5	2.5
30cm	1	1/16		1.2	2.5	1.2
30cm	1	1/16		1.2	2.5	1.2
30cm	1	1/16		1.2	2.5	1.2
30cm	1	1/16		1.2	2.5	1.2

: X GBZ/T250-2014

He, max 2.5 μ Sv/h

1.2

X

$$B = \frac{H * R^2}{I * H_0}$$

..... 11-2

$$X_e = -TVL * \log B$$

..... 11-3

B ——

H —— μ Sv/h

R —— m

I —— 5mA

X_e —— mm

H_0 —— 1m

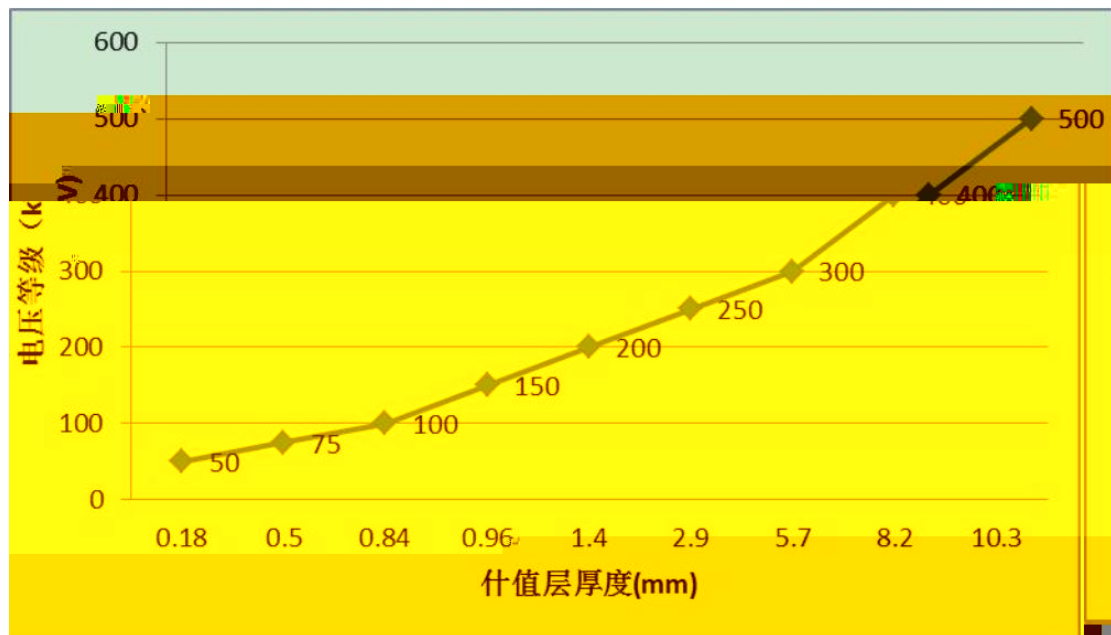
1. $38 \times 10 \mu$ Gy· m²/(mA· h)

TVL —— X X

GBZ/T250-2014 B B.2 225kV X

B.2 X

X 11-2



11-2 X

11-2

150kV 250kV

X

225kV X

2. 15mm

11-3

11-3

	(μ Sv/h)	(m)				
30cm	1.2	2.3	5.75 \times 10	13.4mmPb	14mmPb	

11-3

1.3

1

X

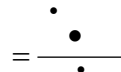
GBZ/T250-2014

X

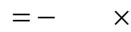
200kV

1m

5 \times 10³ μ Sv/h



11-4



11-5

B₂ —

•

—

•

—

1m X

μ Sv/h

X

GBZ/T250-2014

5 \times 10³ μ Sv/h

R—

m

X—

mm

TVL— X

2. 15mm

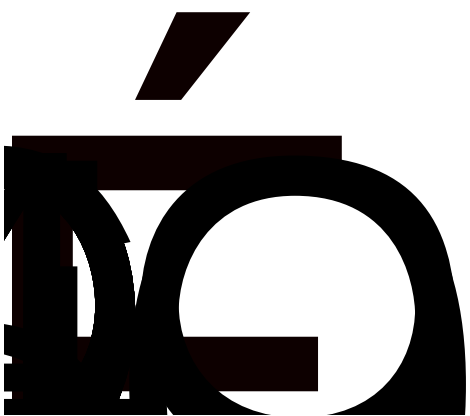
11-4

	(m)	(m)				
30cm	2.5	0.71	2.52×10^{-4}	7.7mmPb	10mmPb	
30cm	1.2	1.07	2.75×10^{-4}	7.7mmPb	10mmPb	
30cm	1.2	0.92	2.03×10^{-4}	7.9mmPb	10mmPb	
30cm	1.2	1.31	1.2×10^{-4}	7.3mmPb	10mmPb	

2

GBZ/T2...-2014

• α



X— mm
 TVL— GBZ/T250-2014 2 X 200 kV
 300 X 90° 200kV B. 2 200kV
 1. 4mm

11-5

11-5

	(μ Sv/h)	(m)				
30cm	2.5	0.71	5.71×10^{-6}	7.3mmPb	10mmPb	
30cm	1.2	1.07		7.3mmPb	10mmPb	
30cm	1.2	0.92	4.60	7.5mmPb	10mmPb	
30cm	1.2	1.31	9.33	7.0mmPb	10mmPb	

3

X

GBZ/T250-2014

TVL

TVL

HVL

TVL=2.15mm HVL=0.64mm

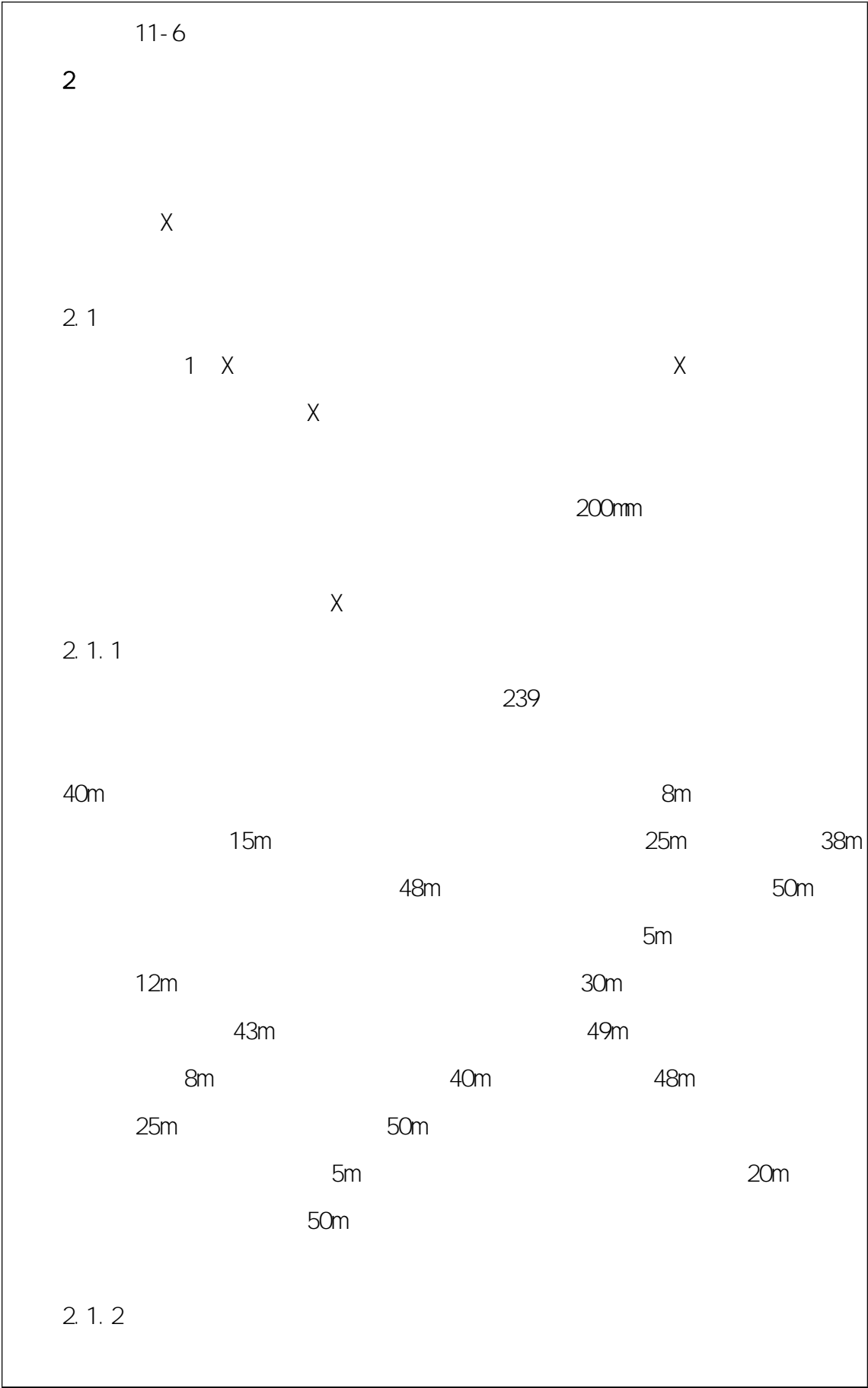
TVL

HVL

11-6

11-6

	mm	mm	mm	mm	
30cm	7.7mmPb	7.3mmPb	8.34mmPb	10mmPb	
30cm	7.7mmPb	7.3mmPb	8.34mmPb	10mmPb	
30cm	7.9mmPb	7.5mmPb	8.54mmPb	10mmPb	
30cm	7.3mmPb	7.0mmPb	7.94mmPb	10mmPb	





3#

5#

6#



8#

10#

11#

12#

13#

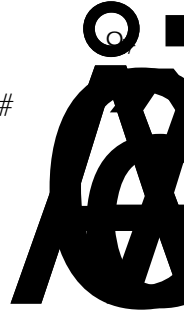
14# Ô T Ô

W Y Y

15#

16#

17# Å





2

X = 7E4 60% AÑ 1026 b

B₂ 2. 23h È

4x

• = — • 11-13

= • • • - 11-14

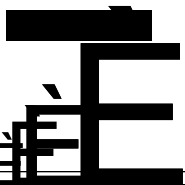
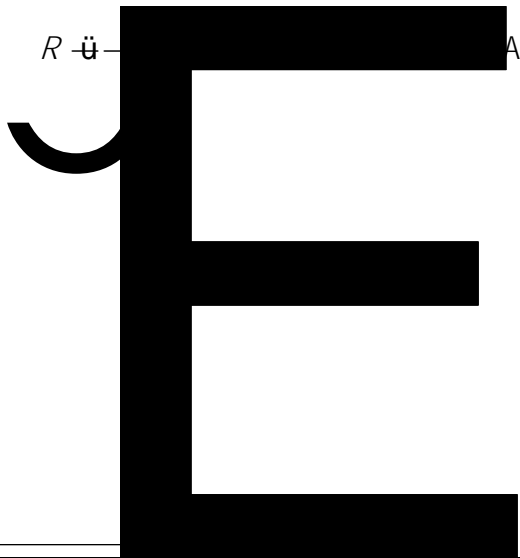
H — m/0 T

• — £ μ S/K

t — αAÑ 1350h

T —

R ü — A



X

11-8

11-8

3

$X = TVL \times \lg B_3$ 10mmPb

B_3 7.19 × 10



X

X

3

X

X

2019

11-11

11-11

11-12

11-12

/Gy	%	/Gy	%
0.70	1	2.00	1
0.90	10	2.50	10
1.00	20	2.80	20
1.05	30	3.00	30
1.10	40	3.20	40
1.20	50	3.50	50
1.25	60	3.60	60
1.35	70	3.75	70
1.40	80	4.00	80
1.60	90	4.50	90
2.00	99	5.50	99

X

X

X

X

$$= \delta$$

nGy. min⁻¹

mA

8mA

δ

1m

r

X

m

$$= \cdot \Sigma \cdot \Sigma \dots\dots\dots 11-13$$

nSv. min⁻¹

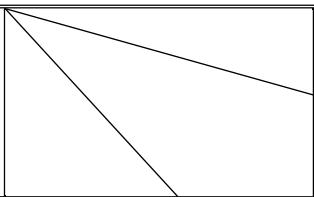
1

X 1

1m n

11-13

11-13

11-12

736.00mSv/

GB18871- 2002

20mSv/a

1mSv/a

11-11

11-12

1

2 X

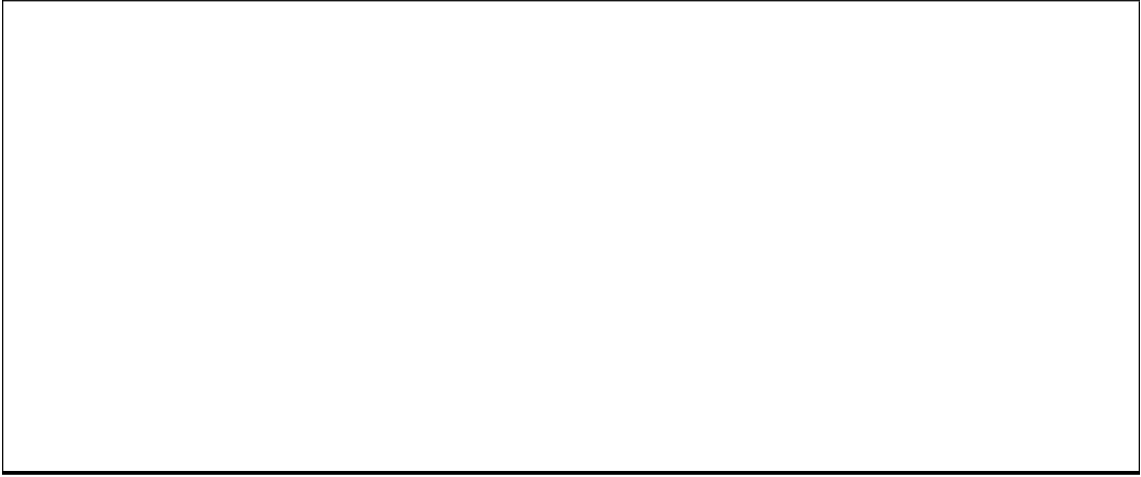
2

3

X

4

X



2022 2



X

2

1

1

8

250

1

<http://fushe.mee.gov.cn>

2

2

3

4

"

2016 >

3 "

<

[2016] 1400

12-1

12-1

12-1

<

2016 >

[2016] 1400

<

2016 >

[2016] 1400

400mmx 600mm

12-2

<http://rr.mee.gov.cn/>)



1

2

239

1 XYG-22508/3 X

-

X

C

225kV

8mA

1350h

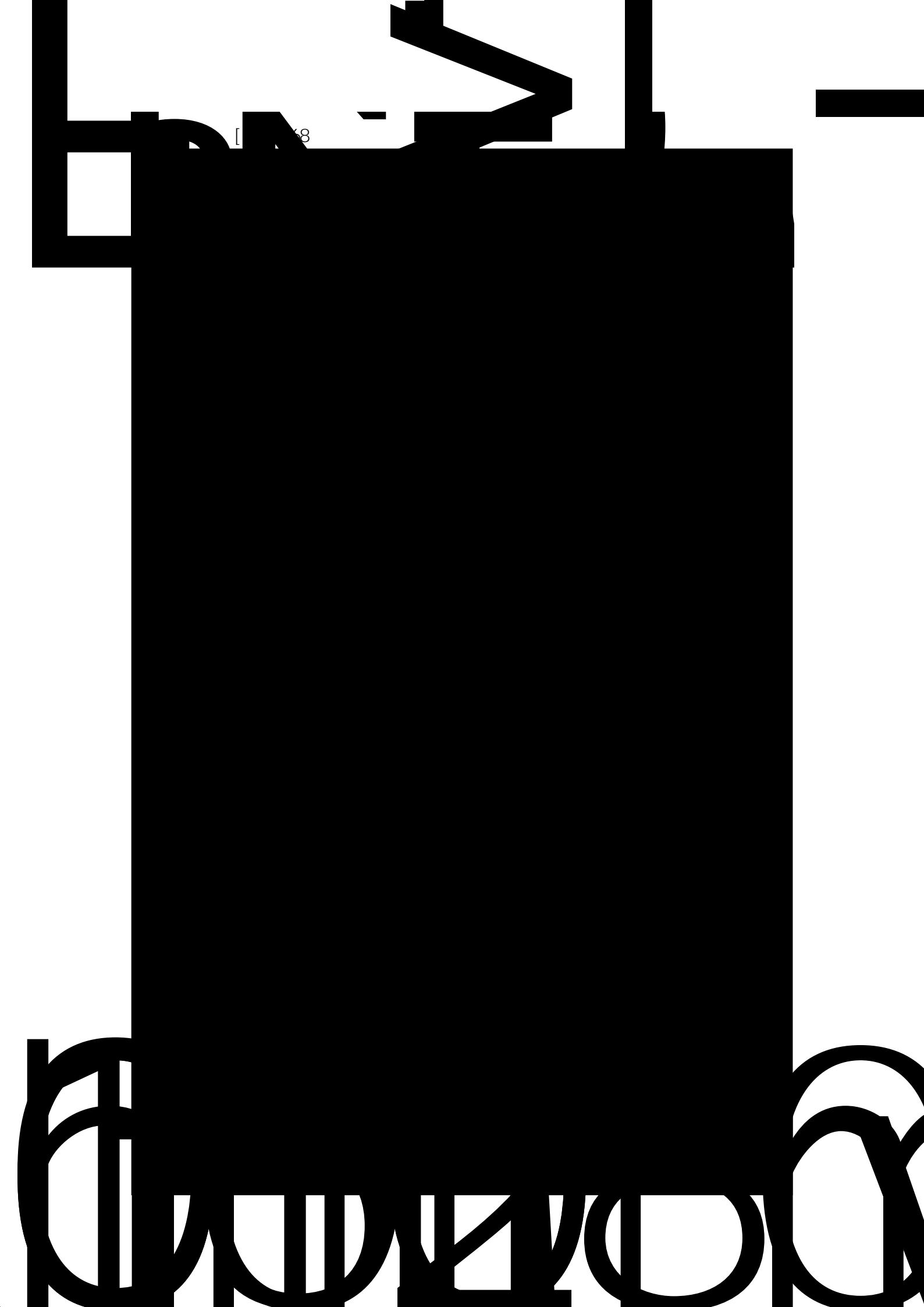
2019

29 2020 1 1

< 2019 >

49 2021 12 30

" " 6 "



[REDACTED] 68

PHOTOGRAPHY

4

1kg/d

5

X

GB12348-2008 2

1

2

3

2

2017 4

1

http://kjs.mee.gov.cn/hj_bhbz/bzwb/other

2

3

4

5

5

20

<http://114.251.10.205>

13-1

X		1	
		2	
		1	

13-1

X		1	
		1	
		1	
		1	
		2	
		2	1
		1	1 1
		1	



