

“变革性技术关键科学问题”重点专项  
2020年度项目申报指南  
(征求意见稿)

2020

7

1.

30MPa  
CO<sub>2</sub>  
2.

30%

1

SO<sub>x</sub> NO<sub>x</sub> PM2.5

>1000Nm<sup>3</sup>/h

>60%

1m

±5%

3%

1600mm×1050mm

×160mm 200nm

90%

0.17J/cm<sup>2</sup>

3.

3

1500W/cm<sup>2</sup>

50mm 50mm 15mm

2.5kW

10

4.

DRAM

SOT-MRAM

SOT-MRAM

DRAM

	SOT		
	SOT		SOT
		CMOS	SOT-MRAM
			1 2
SOT			SOT-MRAM
		DRAM	1
	<5ns	<10pJ	>1012
	SOT-MRAM	16Kb	<90nm
5.	EDA		

ANSYS 3

MAGIC CST 2

6. X

X

X

X

2

>25cm<sup>2</sup>

90000

170  
×1000mm

400 3000nm  
8%

9.

CO<sub>2</sub>

C-O C-H C-C  
/

CO<sub>2</sub>

/

CO<sub>2</sub>

/

CO<sub>2</sub>

3

2

CO<sub>2</sub>

/

CO<sub>2</sub>

CO<sub>2</sub>

/

2

CO<sub>2</sub>

35%

10.

- /

0.14eV

90%

(ITU)2020

11.

2 3

CO<sub>2</sub>

5%

70W/m<sup>2</sup>

0.27kg/(m<sup>2</sup> day)

12.

1

1

0.1

>1

>99.99%

>90%

4

50 /

30

100 1310 1550

13.

/

>2cm<sup>2</sup>

>3.0GPa

>70GPa



>0.7

>150000

60 100GPa 1 4GPa

14.

- - -

50MPa

500W

50MPa

200MPa

20

15.

Pt-Os

Hf-W

- -

Re-Os

$^{190}\text{Pt}-^{186}\text{Os}$        $^{182}\text{Hf}-^{182}\text{W}$   
 $^{186}\text{Os}/^{188}\text{Os}$        $^{182}\text{W}/^{184}\text{W}$       10ppm  
 5ppm      Re-Os      Re      Os  
                  0.5%       $^{187}\text{Os}/^{188}\text{Os}$   
                  5%  
                  3%      5%  
 10%      4      6  
 16.

17.

/

/

/

1

2

3

2 1 2

3

4 5

4

3 5

2 3

/

/

18.

/

1

10

2

10~15

3

3

1

50

19.

SPECT

<sup>18</sup>FDG/PET

SPECT

SPECT/CT

20

<sup>18</sup>FDG/PET

1

<sup>99m</sup>Tc

1

2

SPECT/CT

2a)

SPECT

<2mm 2b)

SPECT

5

2c)SPECT

>48cm >30cm 2d)CT

>20lp/cm@0%MTF 2e CT

0+3HU

-1000+10HU

20.

AD

AD

AD

0 1

1

2 3

AD

2

3 5

3 1 2

21.

(EDA)

3

5

5

5

5

22.

;

(MultilevelDSMC)

DSMC

20%



23. DNA

DNA

DNA

DNA

DNA

DNA

DNA

DNA

DNA

DNA

DNA

DNA

DNA

1.5

5

DNA

DNA

DNA

CT

1/10

CT

1.5

2x2

40

25.

5G

(PIR)

GCD RLWE

5G

5G

15% 30%

128

30

100

Helib

10

CCA2

Brakerski

1 2

40%

80%

26.



—

;

E

-

60

400

11

7

E

10000

50PFlops

7

28.

1GPa

0.005

30%

80

29.

25%

30%

2 3

20%

25%

1 2

30.

600MPa

6%

31.

0.5L

1Kg

0.01

0.05

200Hz

5s

32.

## FPGA

33.

34.

35.

36.

COP >10  
60mW/cm<sup>2</sup>

>4W/g  
0.5

37.

—

Biefeld-BrownEffect

2kgf

20kV

500mA

38.

39.

40.



41.

1

2

3

42.

BSD

GL(n) Iwasawa

L-

Deligne

L-

p- L-

Lefschetz-Verdier

43.

SLE

Malliavin

44.

Kähler-Ricci  
flip

Thurston

45.

Hopf

46.

47.

	p		P
Kodaira-Spencer-Kuranishi		P	
	p		Hodge
Monge-Ampère		Yang-Mills	

Yang-Mills

48.

Hodge

Tate

Abundance

-

-

BCOV

K-

49.

Maslov

Floer

Reeb

Hamilton

Hamilton

Hamilton