

“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
CO₂
2.

30%

1

SO_x NO_x PM2.5

>1000Nm³/h

>60%

1m

±5%

3%

1600mm×1050mm

×160mm 200nm

90%

0.17J/cm²

3.

3

1500W/cm²

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

>25cm²

90000

170
×1000mm

400 3000nm
8%

9.

CO₂

C-O C-H C-C
/

CO₂

/

CO₂

/

CO₂

3

2

CO₂

/

CO₂

CO₂

/

2

CO₂

35%

10.

- /

0.14eV

90%

(ITU)2020

11.

2 3

CO₂

5%

70W/m²

0.27kg/(m² day)

12.

1

1

0.1

>1

>99.99%

>90%

4

50 /

30

100 1310 1550

13.

/

>2cm²

>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

¹⁸FDG/PET

SPECT

SPECT/CT

20

¹⁸FDG/PET

1

^{99m}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

110 @ 2 ± 3 al 7 Q omà) 1/2 i •

DNA

DNA

32 5 5 A

1.5

5

DNA

DNA

~~DNA~~

CT

1/10

CT

1.5

2×2

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/cm²

>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