For office use only	Team Control Number	For office use only
T1 _____	**6666**	F1 _____
T2 _____		F2 _____
T3 _____	Problem Chosen	F3 _____
T4 _____	**F**	F4 _____

2020
MCM/ICM
Summary Sheet

11.1 2020-F

Summary

1. 这篇的一些笔记
2. 尝试复现公式和表格

Keywords: 111; 222

11.1 2020-F

pkx

November 3, 2020

Summary

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Contents

1 NOTES

1.1 总的来说

整体结构框架跟第一篇大差不离，问题综述-背景介绍-问题分解- assumptions-models 具体描述和 policies 制定-总结和 sensitivity analysis -strengthes and weakness.

个别地方略有不同。

- 第一篇先给出 policies 再进行 models 的描述，而这篇是根据 models 再给出 politics design guided by the model，不过问题不是很大。可能写文章的时候要注意是否提及一下上面提到的 policies。
- 这篇把总结换了个说法 exhibition of results 并且放在了偏前面，第一篇把 conclusion 放在了最后，写的时候一些表述可能略有不同。没有给出 improvements。
- 感觉这篇的背景分析好像没有上一篇做的多？上一篇专门设置了一个部分 Analysis of the Issue Paper

1.2 一些有趣的地方

- 这篇 island country 的图很好看，貌似也有点难画 orz。看起来很清晰明了，每个参数在立体图和展开图中一一对应。我读文章自己跟着算的时候也友好一些 hhh
- 在 EDP 移民去向的问题上，这篇用了博弈论的方法，用大国之间政治力量施加压力来一次次进行迭代，最后得出满意的结果。而不是像上一篇单纯根据哪个国家应当承担的责任比较重来进行分配。这个角度感觉蛮有意思的，我觉得可以两者结合一下试试看。
  博弈论这块没有怎么太了解过，一路跟着看下来有点懵……
-

1.3 迷惑

1. 感觉这篇笔误有点多，不知道是原文就这样还是资源有小问题？

2. table2 到 table3 的变化，原因只说了 countries will do sth，具体是怎么变化为什么的好像没有说的太明白，是不是应该给数据什么的？

3. 不太明白 5.3.2 Game rules 这里，$FH^{+}=[fh_{ij}^{+}]_{8\times i}$ 这个式子是怎么得出来的

4. 6.2 彻底懵圈

1.4 一些句子

(1) Research has identified a fact that several are at risk of xxx.

(2) This put the problem of xxx forward for the international society.

(3) According to the research conducted by the former people, we get to know。。。

(4) with reasonable inference

(5) Up to now we have illustrated three things:

(6) Now we’ ll research the sensitivity of the two parameters to perfect our discussion.

2 公式和表格

2.1 表格

Table 1: Declaration

Symbols	Unit	Description of notations and signs
v	$m\cdot a^{-1}$	The speed of raising sea level
P_t	-	the international pressure

Table 2: World-Constant condition

Years(since 2020)	Raised Sea Level(m)	Sink territory(km^2)	influenced people
2050	0.11	45,303/0.04%	19,046,347/0.22%
2100	0.304	120,787/0.11%	50,781,761/0.59%
2170	0.57	226,425/0.20%	95,172,506/1.11%
2220	0.76	301,851/0.26%	126,855,452/1.48%

Table 3: Ranks of Countries Responsibility

Country	$R_{country}$	Country	$R_{country}$
US	0.991	Canada	0.276
China	0.671	French	0.258
Japan	0.316	Brazil	0.256
Russian	0.300	Australia	0.249

2.2 公式

$$\begin{cases} x+y>1-x-y \\ x+1-x-y>y \\ y+1-x-y \end{cases}$$

$$\begin{cases} R=\sqrt{\dfrac{-H^2+\sqrt{H^4+\dfrac{4S^2}{\pi^2}}}{2}} \\ L=\dfrac{S}{\pi}\sqrt{\dfrac{2}{-H^2+\sqrt{H^4+\dfrac{4S^2}{\Pi^2}}}} \\ A=\dfrac{R}{L} \end{cases} \tag{1}$$

$$\int_0^L A\cdot 2\pi lpdl=\int_0^L Ak\cdot 2\pi l^2dl=P_A\Rightarrow k=\frac{3P_A}{2A\pi L^3} \tag{2}$$

$$a=\frac{v_{2014}-v_{2002}}{2014-2002}=0.0925mm\cdot a^{-2}\approx 0.01mm\cdot a^{-1} \tag{3}$$

$$x_i=(x_{i1},x_{i2})\in\{(0,0),(0,1),(1,0),(1,1)\} \tag{4}$$

$$x_i=(0,0)\rightarrow x_i=(0,1) \tag{5}$$

$$X=(x_1,x_2,\ldots x_8)=\begin{bmatrix} x_{11} & x_{21} & \ldots & x_{81} \\ x_{12} & x_{22} & \ldots & x_{82} \end{bmatrix} \tag{6}$$

$$\begin{cases} \dfrac{\partial S}{\partial V_0} = \dfrac{\pi L^2}{H^2}(\dfrac{2H}{y} - 2v_0 - ay) \\ \dfrac{\partial^2 S}{\partial v_0^2} = -\dfrac{2\pi L^2}{h^2} \end{cases} \tag{7}$$

$$\triangle_f = c^2 - 4ab = \frac{4k_b^2(k_b(p+p\alpha) - 2k_d)(k_b(p-p\alpha) + 2k_d)}{(k_b p\alpha - 2k_d)^2} \tag{8}$$

center of percussion [Brody 1986]

Theorem 2.1. *LaTeX*

Lemma 2.2. *TeX.*

Proof. The proof of theorem. [1] □

3 Analysis of the Problem

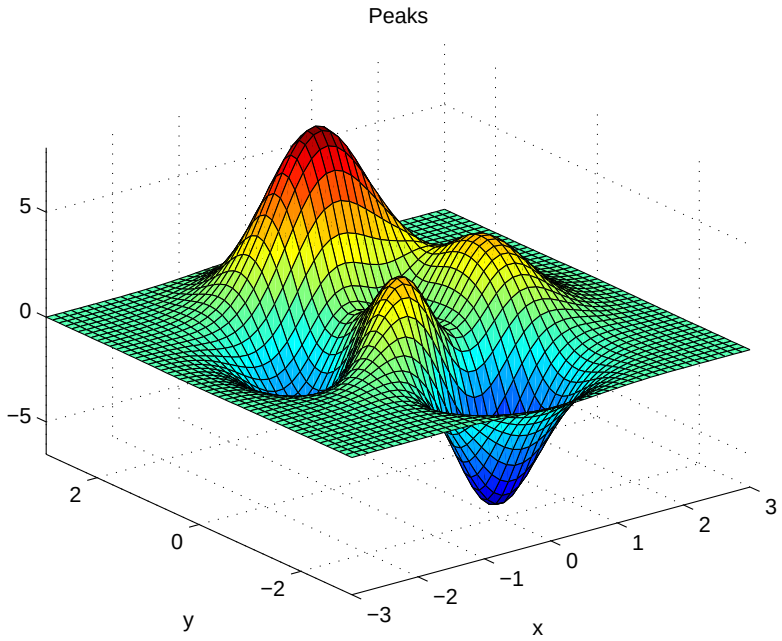

Figure 1: aa

(9)

$$a^2 \tag{9}$$

[1] 这是一个脚注

$$\begin{pmatrix} *20ca_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{pmatrix} = \frac{Opposite}{Hypotenuse} \cos^{-1}\theta \arcsin\theta$$

$$p_j = \begin{cases} 0, & \text{if } j \text{ is odd} \\ r!\,(-1)^{j/2}, & \text{if } j \text{ is even} \end{cases}$$

$$\arcsin\theta = \oiiint_{\varphi} \lim_{x\to\infty} \frac{n!}{r!\,(n-r)!} \tag{1}$$

减号“-”后面的数字可以自己根据情况调整，数值越大，斜杆越往字母左侧移动

4 Calculating and Simplifying the Model

5 The Model Results

6 Validating the Model

7 Conclusions

8 A Summary

9 Evaluate of the Mode

10 Strengths and weaknesses

10.1 Strengths

- **Applies widely**
  This system can be used for many types of airplanes.
- **Improve the quality of the airport service**
  Balancing the cost of the cost and the benefit.

References

[1] D. E. KNUTH The TEXbook the American Mathematical Society and Addison-Wesley Publishing Company , 1984-1986.

[2] Lamport, Leslie, LATEX: " A Document Preparation System ", Addison-Wesley Publishing Company, 1986.

[3] `http://www.latexstudio.net/`

[4] `http://www.chinatex.org/`

Appendices

Appendix A First appendix

aaaaa

Here are simulation programmes we used in our model as follow.

Input matlab source:

```
function [t,seat,aisle]=OI6Sim(n,target,seated)
pab=rand(1,n);
for i=1:n
    if pab(i)<0.4
       aisleTime(i)=0;
    else
        aisleTime(i)=trirnd(3.2,7.1,38.7);
    end
end
```

Appendix B Second appendix

some more text **Input C++ source:**

```
//============================================================================
// Name        : Sudoku.cpp
// Author      : wzlf11
// Version     : a.0
// Copyright   : Your copyright notice
```

```
// Description : Sudoku in C++.
//============================================================================

#include <iostream>
#include <cstdlib>
#include <ctime>

using namespace std;

int table[9][9];

int main() {

    for(int i = 0; i < 9; i++){
        table[0][i] = i + 1;
    }

    srand((unsigned int)time(NULL));

    shuffle((int *)&table[0], 9);

    while(!put_line(1))
    {
        shuffle((int *)&table[0], 9);
    }

    for(int x = 0; x < 9; x++){
        for(int y = 0; y < 9; y++){
            cout << table[x][y] << " ";
        }

        cout << endl;
    }

    return 0;
}
```