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| |  |  | | --- | --- | | For office use only | | | T1 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | T2 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | T3 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | T4 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |  | | --- | | Team Control Number  **00000** | |  | | Problem Chosen  **A** | | |  |  | | --- | --- | | For office use only | | | F1 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | F2 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | F3 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | F4 | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

**2020 Mathematical Contest in Modeling (MCM) Summary Sheet**

**Title**（此处应写论文标题）

**Summary**

美赛论文的摘要的英文一般用Summary，摘要最好在本页完成。

**标题**为16号Times New Roman字体加粗并居中

**摘要**为14号Times New Roman字体加粗并居中

**关键词**为12号Times New Roman字体加粗并居左

**行间距一般为1倍行距，为控制在一页可适当调整。**

首页不需要页眉和页码。

“00000”修改为自己的控制编号（Team Control Number），“A”改为自己的选题题号（A/B/C/D/E/F）

**Key words:** 三到五个关键词

注：红色字为解释说明部分，使用时应全部删除或换成黑色字。

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从目录开始有页眉和页码，把“00000”改为自己的控制编号，页码会自动调整可以不用编辑。

# I. Introduction

## 1.1 Background

在此开始正文，

正文的一级标题为16号Times New Roman字体加粗并居中

正文的二级标题为14号Times New Roman字体加粗并居左

正文的三级标题为12号Times New Roman字体加粗并居左

一般不设四级标题，若有的话请用（1）或1）或①等代替为11号Times New Roman字体加粗并居左

正文部分为11号Times New Roman字体不加粗

英文文章的段落开头一般是居左并无缩进的，即段首顶格书写。

从目录开始有页眉和页码，把“00000”改为自己的控制编号，页码会自动调整可以不用编辑。

## 1.2 Our works

* Task 1
* Task 2
* Task 3
* Task 4

# II. The Description of the Problem

## 2.1 Problem statement

Fig1. thinking research paper figure

## 2.2 Analysis of Specific Issues

2.2.1 Analysis of Problem 1

2.2.2 Analysis of Problem 2

2.2.3 Analysis of Problem 3

2.2.4 Analysis of Problem 4

# III. Basic assumption

* The convection of water inside the bath tub does not affect the current water temperature. The reason is that heat exchange caused by convective occurs only between the parts of the water in the bathtub, this process does not get heat exchange from the outside of the system, in other words, only water temperature distribution changed.

# IV. Glossary & Symbols

## 4.1 Glossary

* Load degree: V / C is maximum traffic service divided by basic capacity under ideal conditions,. The basic capacity is the maximum amount of traffic on the four-hour service level half.

## 4.2 Symbols

|  |  |  |
| --- | --- | --- |
| **Symbols** | **Definition** | **Units** |
| **Z** | The index of development | J |
| **CI** | Coordinated index of development | J |
| **DI** | Sustainability index of development | J |
| **A** | Economic index of development | J |
| **B** | Social index of development | K |
| **C** | Environment index of development | K |
| **F** | Impact index value | km3 |
| **S** | Reality index value | m |
|  | Influence coefficient | m2 |

# V. Models

## 5.1 Analysis and Solving of Question One

5.1.1 Model Preparation

**(1) Data Processing**



**(2) Assumptions**

**(3) The Foundation of Model**

Fig2. thinking research paper figure

图要居中，下面加图标

5.1.2 Model Establishment

* + **Step1:**
  + **Step2:**
  + **Step3:**

* + **Step4:**
  + **Step5:**
  + **Step6:**
  + **Step7:**
  + **Step8:**
  + **Step9:**

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 （2）

5.1.3 Results

表格要有标头，居中，在表格上方。

**Table 2 The results of the model parameter value table**

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5.1.4 Analysis of the Result

## 5.2 Analysis and Solving of Question Two

5.2.1 Model Preparation

**(1) Data Processing**



**(2) Assumptions**

**(3) The Foundation of Model**

Fig3. thinking research paper figure

5.2.2 Model Establishment

* + **Step1:**
  + **Step2:**
  + **Step3:**

* + **Step4:**
  + **Step5:**
  + **Step6:**
  + **Step7:**
  + **Step8:**
  + **Step9:**

5.2.3 Results

5.2.4 Analysis of the Result

## 5.3 Analysis and Solving of Question Three

5.3.1 Model Preparation

**(1) Data Processing**



**(2) Assumptions**

**(3) The Foundation of Model**

Fig4. thinking research paper figure

5.3.2 Model Establishment

* + **Step1:**
  + **Step2:**
  + **Step3:**

* + **Step4:**
  + **Step5:**
  + **Step6:**
  + **Step7:**
  + **Step8:**
  + **Step9:**

5.3.3 Results

**Table 3 The results of the model parameter value table**

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5.3.4 Analysis of the Result



Fig5. Basketball Coaches

## 5.4 Analysis and Solving of Question Four

5.4.1 Model Preparation

**(1) Data Processing**



**(2) Assumptions**

**(3) The Foundation of Model**

5.4.2 Model Establishment

* + **Step1:**
  + **Step2:**
  + **Step3:**

* + **Step4:**
  + **Step5:**
  + **Step6:**
  + **Step7:**
  + **Step8:**
  + **Step9:**



Fig6. Traffic flow changes with the rate of large truck

5.4.3 Results

**Table 4 The results of the model parameter value table**

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5.4.4 Analysis of the Result

# VI. Error Analysis and Sensitivity Analysis

## 6.1 Error Analysis

6.1.1 Error Analysis of Model One

6.1.2 Error Analysis of Model Two

6.1.3 Error Analysis of Model Three

## 6.2 Sensitivity Analysis

6.2.1 Sensitivity Analysis of Model One

6.2.2 Sensitivity Analysis of Model Two

6.2.2 Sensitivity Analysis of Model Three

# VII. Evaluation and Promotion of Model

## 7.1 Strength and Weakness

7.1.1 Strength

7.1.2 Weakness:

## 7.2 Promotion

# Ⅷ. Conclusions

## 8.1 Conclusions of the problem

## 8.2 Methods used in our models

# I X. References

[1] Xu Lun Hui,Luo Qiang,Fu Hui.Car following safe distance model based on braking process of leading vehicle f [J].Journal of Guangxi Normal University(Natural Science Edition),2010,28(1):1-5.

[2]

[3]

[4]

# X. Appendix

## 10.1 Appendix One

美赛中可以有附录也可以没有附录，即此部分可以省略

## 10.2 Appendix Two