

Submersible Rescue

Summary

This is a summary.

Keywords: AHP; SAR(submersible search and rescue); Monte Carlo sampling; Runge-Kuta; Sensitivity Analysis.

Contents

1	Introduction	2
1.1	Background	2
1.2	Problem Restatement and Analysis	2
1.3	Overview of our work	2
2	Assumption	3
3	List of Notation	4
4	Model I: Randomized roaming models and equipment selection	5
5	Model II: Search and rescue model	6
6	Extension of the model	7
7	Sensitivity Analysis	8
8	Strengths and Weaknesses	9
8.1	Strengths	9
8.2	Weaknesses	9
	Appendices	10
	Appendix A First appendix	11
	Appendix B Second appendix	11

1 Introduction

This is a introduction.

1.1 Background

1.2 Problem Restatement and Analysis

1.3 Overview of our work

2 Assumption

3 List of Notation

this is List of Notation.

Symbol	Meaning
$v_{ij}^{(t)}$	the volume of water available for general usage from dam i to state j at time t
$u_{ij}^{(t)}$	the volume of water available for the hydropower production from dam i to state j at time t
$w_{ij}^{(t)}$	the effectively produced electric energy through ultra-high voltage grid from dam i to state j
d_j^{water}	the demand on general water usage of state j within unit time
d_j^{elec}	the demand on hydropower of state j within unit time
$V_i^{(t)}$	the water storage amount of dam i at time t

Table 1: The List of Notation

4 Model I: Randomized roaming models and equipment selection

5 Model II: Search and rescue model

6 Extension of the model

7 Sensitivity Analysis

8 Strengths and Weaknesses

8.1 Strengths

8.2 Weaknesses

Appendices

MEMORANDUM

To: MCM office

From: MCM Team 9555

Subject: MCM

Date: January 20, 2025

This is a memorandum.

Appendix A First appendix

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

C++ source code:

```
#include <iostream>

int main (int argc, char *argv[]) {
    std::cout << "hello" << std::endl;
    return 0;
}
```

Appendix B Second appendix

Python source code:

```
print("Hello World!")
```
