

# This is a L<sup>A</sup>T<sub>E</sub>Xtemplate for Elsevier

Penghui Guo <sup>a,\*</sup>

<sup>a</sup>*College of Economics and Management, Nanjing University of Aeronautics and Astronautics, Nanjing 211106, China*

---

## Abstract

Abstract

*Keywords:* input keyword here, input another keyword here

---

---

\*Corresponding author

*Email address:* `m@guo.ph` (Penghui Guo )

## 1. Introduction

Something be highlighted  
invisible comment:

## 2. Literature review

### 2.1. Literature review subsection

citation: [Grass & Fischer \(2016\)](#),  
citation in bracket: ([Grass & Fischer, 2016](#)),

## 3. Mathematical model

Table 1: Notations

|   |           |
|---|-----------|
| <b>Sets:</b>                            |           |
| $T$                                     | blablabla |
| <b>Parameters:</b>                      |           |
| $M$                                     | blablabla |
| <b>First-stage decision variables:</b>  |           |
| $y_{ik}$                                | blablabla |
| <b>Second-stage decision variables:</b> |           |
| $t_{ij}^s$                              | blablabla |
| <b>Auxiliary decision variables:</b>    |           |
| $x_{pq}^s$                              | blablabla |

blablabla

Model [\(1\)](#)

$$\begin{aligned} \text{[SPRP]} \quad & \text{minimize} \quad \sum_{i \in T} \sum_{k \in K} c^k y_{ik} + \sum_{i \in T} q l_i + \sum_{i \in T} \sum_{h \in H} c_1^h w_i^h \\ & + \mathbb{E}_{s \in S} \left( \sum_{i \in T} \mathcal{R}_{is} \right) \end{aligned} \tag{1.1}$$

$$\text{subject to} \quad \sum_{k \in K} y_{ik} \leq 1, \quad \forall i \in T \tag{1.2}$$

[\(1.1\)](#) blablabla.

## 4. Solution method

### 4.1. Solution method subsection

#### 4.1.1. Solution method subsubsection

## 5. Numerical experiments

reference [Figure 1](#), [Figure 1\(a\)](#), [Figure 1\(b\)](#), [Figure 1\(c\)](#), [Figure 1\(d\)](#).

| Table 2: Table                   |             |           |
|----------------------------------|-------------|-----------|
| Parameters                       | Description | Value     |
| <b>Variable parameters:</b>      |             |           |
| $ T $                            | blablabla   | blablabla |
| <b>Deterministic parameters:</b> |             |           |
| $p_j$                            | blablabla   | blablabla |
| <sup>1</sup> balblabla           |             |           |

| Table 3: Table |             |         |          |             |         |          |             |          |          |             |         |          |
|----------------|-------------|---------|----------|-------------|---------|----------|-------------|----------|----------|-------------|---------|----------|
| Instance       | A           |         |          | B           |         |          | C           |          |          | D           |         |          |
|                | Obj.        | Gap (%) | Time (s) | Obj.        | Gap (%) | Time (s) | Obj.        | Gap' (%) | Time (s) | Obj.        | Gap (%) | Time (s) |
| **_**_**       | <b>*000</b> | 0.00    | 000      | <b>*000</b> | 0.00    | 000      | <b>*000</b> | 0.00     | 000      | <b>*000</b> | 0.00    | 000      |

blablabla

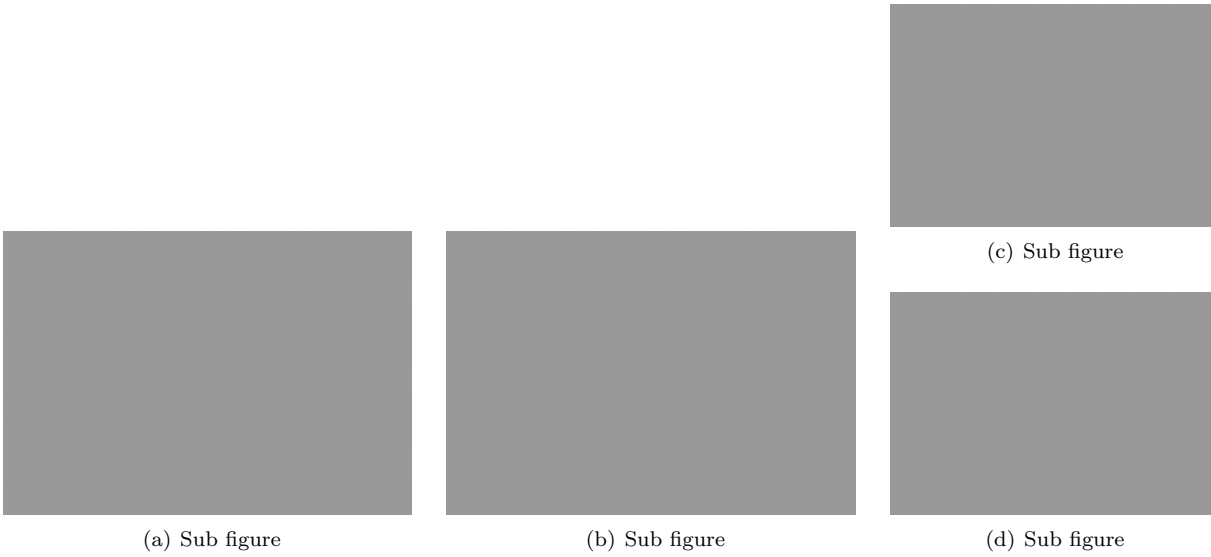


Figure 1: A figure

another reference [fig. 1](#), [fig. 1\(a\)](#), [fig. 1\(b\)](#), [fig. 1\(c\)](#), [fig. 1\(d\)](#).

[Appendix A](#), [theorem 1](#)

6. Acknowledgment

This work was supported by the United States National Science Foundation (NSF) [grant number \*\*\*]; the National Natural Science Foundation of China (NSFC) [grant number \*\*\*]; and the China Scholarship Council (CSC) [grant number \*\*\*]. We also appreciate the anonymous reviewers for their valuable suggestions.

Appendix A. Some proof

**Theorem 1.** *Some theorem.*

*Proof.*

Equations

(A.1)

Case 1: Case

Case 2: Sub case (1): Sub case

proof is end here

□

## Appendix B. Pseudo code

---

**Algorithm 1:** This is an algorithm

---

```

Data: data
Result: results
1 def function_name( $PMP_u$ ):
2   gap  $\leftarrow +\infty$ ;
3   while gap  $\neq 0$  :
4     do something;
5     if condition > value :
6       something = True;
7       for  $i \in T, s \in S$  :
8         do something;
9       if ondition > value :
10        a  $\leftarrow$  b ;                                // blablabla
11     else:                                           // Return something
12       return something;
13   v  $\leftarrow$  v + 1;
14 return something

```

---

## References

Grass, E., & Fischer, K. (2016). Two-stage stochastic programming in disaster management: A literature survey. *Surveys in Operations Research and Management Science*, 21, 85–100. doi:[10.1016/j.sorms.2016.11.002](https://doi.org/10.1016/j.sorms.2016.11.002).