中国科学院大学
University of Chinese Academy of Sciences

# 硕士学位论文

## 中国科学院大学学位论文 LaTeX 模板 $^{\pi}\pi^{\pi}$

作者姓名：莫晃锐

指导教师：刘青泉 研究员 中国科学院力学研究所

学位类别：理学硕士

学科专业：流体力学

培养单位：中国科学院力学研究所

2014 年 6 月

# LaTeX Thesis Template

# of

# The University of Chinese Academy of Sciences $^{\pi}\pi^{\pi}$

**A thesis submitted to the**

**University of Chinese Academy of Sciences**

**in partial fulfillment of the requirement**

**for the degree of**

**Master of Natural Science**

**in Fluid Mechanics**

**By**

**Mo Huangrui**

**Supervisor: Professor Liu Qingquan**

**Institute of Mechanics, Chinese Academy of Sciences**

**June, 2014**

## 中国科学院大学
## 学位论文原创性声明

本人郑重声明：所呈交的学位论文是本人在导师的指导下独立进行研究工作所取得的成果。尽我所知，除文中已经注明引用的内容外，本论文不包含任何其他个人或集体已经发表或撰写过的研究成果。对论文所涉及的研究工作做出贡献的其他个人和集体，均已在文中以明确方式标明或致谢。本人完全意识到本声明的法律结果由本人承担。

作者签名：

日　　期：

## 中国科学院大学
## 学位论文授权使用声明

本人完全了解并同意遵守中国科学院大学有关保存和使用学位论文的规定，即中国科学院大学有权保留送交学位论文的副本，允许该论文被查阅，可以按照学术研究公开原则和保护知识产权的原则公布该论文的全部或部分内容，可以采用影印、缩印或其他复制手段保存、汇编本学位论文。

涉密及延迟公开的学位论文在解密或延迟期后适用本声明。

作者签名：　　　　　　　　　　导师签名：

日　　期：　　　　　　　　　　日　　期：

# 摘　要

本文是中国科学院大学学位论文模板ucasthesis的使用说明文档。主要内容为介绍LaTeX文档类ucasthesis的用法，以及如何使用LaTeX快速高效地撰写学位论文。

**关键词：** 中国科学院大学，学位论文，LaTeX模板

# Abstract

This paper is a help documentation for the LaTeX class ucasthesis, which is a thesis template for the University of Chinese Academy of Sciences. The main content is about how to use the ucasthesis, as well as how to write thesis efficiently by using LaTeX.

**Keywords:** University of Chinese Academy of Sciences (UCAS), Thesis, LaTeX Template

# 目 录

# 图形列表

# 表格列表

# 符号列表

## 字符

| Symbol | Description | Unit |
| --- | --- | --- |
| $R$ | the gas constant | $\mathrm{m}^2 \cdot \mathrm{s}^{-2} \cdot \mathrm{K}^{-1}$ |
| $C_v$ | specific heat capacity at constant volume | $\mathrm{m}^2 \cdot \mathrm{s}^{-2} \cdot \mathrm{K}^{-1}$ |
| $C_p$ | specific heat capacity at constant pressure | $\mathrm{m}^2 \cdot \mathrm{s}^{-2} \cdot \mathrm{K}^{-1}$ |
| $E$ | specific total energy | $\mathrm{m}^2 \cdot \mathrm{s}^{-2}$ |
| $e$ | specific internal energy | $\mathrm{m}^2 \cdot \mathrm{s}^{-2}$ |
| $h_T$ | specific total enthalpy | $\mathrm{m}^2 \cdot \mathrm{s}^{-2}$ |
| $h$ | specific enthalpy | $\mathrm{m}^2 \cdot \mathrm{s}^{-2}$ |
| $k$ | thermal conductivity | $\mathrm{kg} \cdot \mathrm{m} \cdot \mathrm{s}^{-3} \cdot \mathrm{K}^{-1}$ |
| $S_{ij}$ | deviatoric stress tensor | $\mathrm{kg} \cdot \mathrm{m}^{-1} \cdot \mathrm{s}^{-2}$ |
| $\tau_{ij}$ | viscous stress tensor | $\mathrm{kg} \cdot \mathrm{m}^{-1} \cdot \mathrm{s}^{-2}$ |
| $\delta_{ij}$ | Kronecker tensor | 1 |
| $I_{ij}$ | identity tensor | 1 |

## 算子

| Symbol | Description |
| --- | --- |
| $\Delta$ | difference |
| $\nabla$ | gradient operator |
| $\delta^{\pm}$ | upwind-biased interpolation scheme |

## 缩写

| | |
| --- | --- |
| CFD | Computational Fluid Dynamics |
| CFL | Courant-Friedrichs-Lewy |
| EOS | Equation of State |

| | |
|---|---|
| JWL | Jones-Wilkins-Lee |
| WENO | Weighted Essentially Non-oscillatory |
| ZND | Zel’dovich-von Neumann-Doering |

# 第1章 END-TO-END TEMPORAL FEATURE AGGREGATION FOR SIAMESE TRACKERS

## 1.1 Introduction

Visual object tracking is the task of estimating the state of an arbitrary target in each frame of a video sequence. Recently, siamese networks have demonstrated the significant improvement on object tracking performances. However, the learned generic representation may be less discriminative because of the deteriorated object appearances in videos (Fig. 1.1), such as motion blur, occlusion, *etc*. Researchers try different ways to improve the feature representation. For example, SA-Siam **?** separately trains two branches to keep the heterogeneity of semantic/appearance features. In DaSiamRPN **?**, a novel distractor-aware incremental learning module is designed, which can effectively transfer the general embedding to the current video domain and incrementally catch the target appearance variations during inference. SiamRPN++ **?** introduces a simple yet effective sampling strategy to drive the siamese tracker with more powerful deep architectures. These efforts have produced some impact and improved state-of-the-art accuracy. However, all above siamese algorithms perform tracking based on features cropped from only the current frame, which limits the power of siamese trackers.

Actually, the video has rich information about the target and such temporal information is an important basis for video understanding and tracking. For example, in video object detection, FGFA **?** leverages temporal coherence on feature level. It improves the per-frame features by aggregation of nearby features along the motion paths, and thus improves the video recognition accuracy. In video object segmentation, STCNN **?** introduces a temporal coherence module, which focuses on capturing the dynamic appearance and motion cues to provide the guidance of object segmentation. In discriminative correlation filter-based object tracking, FlowTrack **?** focuses on making use of the rich flow information in consecutive frames to improve the feature representation and the tracking accuracy. However, how to utilize the temporal information in siamese trackers has not been widely studied yet.

In this paper, we aim to take full advantage of temporal information in siamese

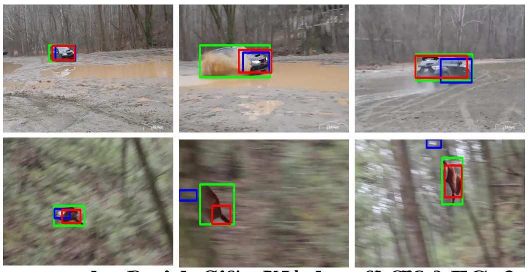



图 1.1 A comparison of our method with SiamMask and SiamFCv2. The example frames are from the GOT-10k testing set. Our approach effectively handles poor object appearance compared to existing approaches.

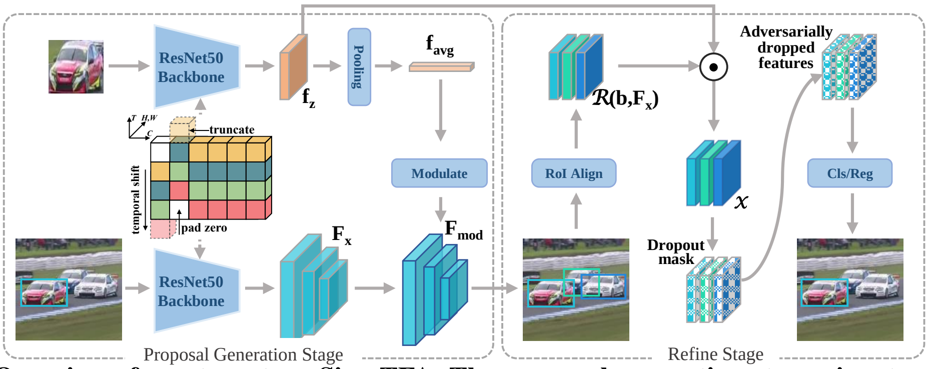



图 1.2 Overview of our two-stage SiamTFA. The proposal generation stage aims to generate proposals that are visually similar to the given template target. The refine stage aims to select the target from candidate proposals.

trackers. We introduce a novel siamese tracking architecture equipped with a temporal aggregation module, which improves the per-frame features by aggregating features from adjacent frames. This temporal fusion strategy enables the siamese tracker to handle poor object appearance like motion blur, occlusion, *etc*. To achieve this, we shift the channels along the temporal dimension **?** in the backbone of the siamese network. Note that features of the same object are usually not spatially aligned across frames due to video motion **?**, so the temporal shift is only performed on the residual layers **?** to preserve the spatial feature learning capability of the siamese tracker. Different from other temporal fusion methods **??**, the proposed method is able to be trained end-to-end on large-scale datasets. Additionally, our temporal fusion method is easy to implement, without changing the siamese tracking architecture or using optical flow **?**.

To improve the robustness of target features, we further incorporate an adversarial dropout **?** module in the siamese tracking network. Specifically, we first predict adversarial dropout masks based on divergence maximum. Then, we aim to minimize the divergence between the randomly dropped features and the adversarially dropped features. This module has both the advantages of dropout and adversarial training: the dropout makes our siamese network randomly disconnects neural units during training to prevent the co-adaptation of target features and the adversarial training enforces our tracker to learn difficult cases.

## 1.2 The proposed Method

In this section, we will introduce the proposed siamese architecture-based tracking method, namely SiamTFA (Fig. 1.2), which is inspired by the great success of siamese trackers **??**. Specifically, SiamTFA takes an image pair as input, comprising a template image and a search image. The template image is the image patch cropped from the initial frame according to ground truth bounding box. The search image is one whole frame in the remaining of the video. Both inputs share the same feature extractor and parameters. Inspired by the success of the two stage detection paradigm **?**, our siamese tracker is also a two stage method. The first stage aims to generate proposals that are visually similar to the given template target. In this stage, we introduce a temporal aggregation module to enhance the temporal information (Sec. 1.2.1). The second stage aims to identify the target from candidate proposals. In this stage, we insert an adversarial dropout module to learn more robust features (Sec. 1.2.2).

### 1.2.1 Temporal aggregation module

The proposal generation stage consists of 3 components: (1) feature extractor, (2) temporal aggregation module, and (3) feature modulation module. The feature extractor generates the search features and the template feature for the search image and the template image, respectively. The temporal aggregation module is integrated into the feature extractor to utilize the temporal information. The feature modulation module merge the search features and the template feature to recognize the candidate targets.

**Feature extractor** To deal with the scale change of the target, we use Res50-FPN **?** as our feature extractor. **F**eature **P**yramid **N**etwork (FPN) exploits the inherent multi-scale, pyramidal hierarchy of deep convolutional networks to construct feature pyramids with marginal extra cost. Our siamese FPN takes a template image and a search image as input. For the search image, the FPN outputs proportionally sized feature maps at multiple levels, in a fully convolutional fashion. We denote the output for the search image as $F_x = \{f_x^i\}_{i=1:5}$, and note that they have strides of {4, 8, 16, 32, 64} pixels with respect to the input search image. For the template image, we use the last stage of the FPN output as the template feature with a spatial size of $7 \times 7$.

**Temporal aggregation module** Most popular siamese trackers **??** use the still image to make prediction. This limits the ability of these siamese trackers. On one hand, tracking on single frame generates unstable results and fails when appearance is poor (Fig. 1.1); on the other hand, temporal adjacent frames can provide more information about the target. So we aim to improve the per-frame features by aggregating features of adjacent frames. Specifically, we insert a temporal aggregation module into the last stage of the feature extractor. To model temporal information, the images in one batch are several adjacent frames in the same video and are sorted by time, so we can regard the batch dimension as the time dimension. Assume the feature map at the last stage of the feature extractor is $f \in \mathbb{R}^{T\times C\times H\times W}$. For each time $t \leq T$, we first split feature $f^t \in \mathbb{R}^{C\times H\times W}$ into 3 parts along the channel dimension: $f^t_{1:K} \in \mathbb{R}^{K\times H\times W}$, $f^t_{(K+1):2K} \in \mathbb{R}^{K\times H\times W}$, and $f^t_{(2K+1):C} \in \mathbb{R}^{(C-2K)\times H\times W}$. Then we shifts the channels along the temporal dimension following **?**:

$$f^t_{agg} = \mathcal{C}(f^{t-1}_{1:K}, f^{t+1}_{(K+1):2K}, f^t_{(2K+1):C}), \tag{1.1}$$

where $\mathcal{C}(\cdot)$ is the concatenation operation. According to **?**, the shift operation is only performed at the residual layer to preserve the spatial feature learning capability of the siamese tracker. Note that the aggregated feature $f^t_{agg}$ has the same shape with $f^t$, so we can insert this module into the backbone directly, without the need to change other part of the network. What's more, this operation only needs to do data movement, so it is computationally free and can be trained end-to-end.

**Feature modulation module** After getting the template feature $f_z$ and the search feature pyramid $F_x = \{f_x^i\}_{i=1:5}$, they are modulated to generate target-specific features. Specifically, The modulation vector $f_{avg}$ is generated from $f_z$ using global average pooling, which carries the target-specific appearance information. The modulated feature pyramid $F_{mod} = \{f^i_{mod}\}_{i=1:5}$ is generated as follows:

$$f^i_{mod} = \mathcal{M}(f_{avg}, f^i_x), \tag{1.2}$$

where $\mathcal{M}(\cdot)$ is the depth-wise correlation **?**. Each modulated feature map is fed into two sibling fully-connected layers—a box-regression layer with channel dimension $4k$, and a box classification layer with channel dimension $2k$, where $k$ is the number of maximum possible proposals for each location. The object/background criterion and bounding box regression are defined with respect to a set of anchors. Following **?**, we assign anchors with the same scale to each of the different pyramid levels. For detail information of the anchor setting, please refer to **?**. We use the top-$N$ ranked proposal regions for the refine stage.

### 1.2.2 Adversarial dropout module

The refine stage aims to select the target from candidate proposals. Features of these candidate proposals are cropped from the search feature pyramid $F_x$ using RoIAlign **?**, and then fused with the target feature $f_z$:

$$\mathcal{X} = \mathcal{R}(b, F_x) \odot f_z, \tag{1.3}$$

where $\mathcal{R}$ represents the RoIAlign, $\odot$ represents the element-wise multiplication, $b$ represents an RoI in candidate proposals and $\mathcal{X}$ represents the fused feature of $b$.

**Adversarial dropout** After the feature fusion, we use adversarial dropout **??** to increase the discriminative ability of $\mathcal{X}$. We first predict the adversarial dropout mask based on divergence maximum. The mask is applied to $\mathcal{X}$ to get the adversarially dropped features. Then, we aim to minimize the divergence between the randomly dropped features and the adversarially dropped features. Specifically, let $h^{cls}$ and $h^{reg}$ denote the classification layer and the regression layer in stage 2, respectively. The adversarial dropout mask is calculated as follows according to **?**:

$$\begin{aligned} \mathbf{m}^{adv} &= \arg\max_{\mathbf{m}} D[h^{cls}(\mathcal{X} \odot \mathbf{m}^s), h^{cls}(\mathcal{X} \odot \mathbf{m})] \\ &where\ ||\mathbf{m}^s - \mathbf{m}|| \leq \delta_e L, \end{aligned} \tag{1.4}$$

where $L$ represents the dimension of $\mathbf{m} \in \mathbb{R}^L$, $\mathbf{m}^s$ represents the random mask and $\mathbf{m}^{adv}$ represents the adversarial mask. $\delta_e$ is a hyper parameter to control the perturbation magnitude with respect to $\mathbf{m}^s$ **?**. $D[p, p'] \geq 0$ measures the divergence between two distributions $p$ and $p'$.

To calculate $\mathbf{m}^{adv}$, **?** optimizes a 0/1 knapsack problem with appropriate relaxations in the process. Please refer to **?** for detail information. After generating $\mathbf{m}^{adv}$, we then aim to minimize the divergence between two predicted distribution regarding to $\mathcal{X}$: one with a random dropout mask $\mathbf{m}^s$ and another with an adversarial dropout mask $\mathbf{m}^{adv}$ **?**.

$$\mathcal{L}_{adv} = \mathbb{E}[D_{KL}[h^{cls}(\mathcal{X} \odot \mathbf{m}^s)||h^{cls}(\mathcal{X} \odot \mathbf{m}^{adv}))]], \tag{1.5}$$

where $D_{KL}$ is the Kullback-Leibler divergence.

Finally, for each RoI, the classification layer produces softmax probability estimates over two classes (foreground or background) and the regression layer outputs four real-valued numbers for the foreground class. These four values encode the refined bounding-box position for the RoI. The loss of SiamTFA is:

$$\mathcal{L} = \mathcal{L}_{cls}^{stage1} + \mathcal{L}_{cls}^{stage2} + \mathcal{L}_{reg}^{stage1} + \mathcal{L}_{reg}^{stage2} + \lambda\mathcal{L}_{adv}, \tag{1.6}$$

where $\lambda$ is a hyper-parameter to balance the adversarial loss and the classification/regression loss. $\mathcal{L}_{cls}^{\cdot}$ is the cross entropy loss and $\mathcal{L}_{reg}^{\cdot}$ is the standard smooth $L1$ loss for regression. During testing, the RoI with the top classification score is selected as the predicted target.

## 1.3 Experiments

In this section, we first present the implementation details. Then we evaluate out method on GOT-10K **?** testing set and the UAV20L **?** dataset.

### 1.3.1 Implementation details

The proposed network is trained on the training set of GOT-10k **?** and the backbone is pretrained on ImageNet. We apply stochastic gradient descent with momentum of 0.9 and set the weight decay to 0.0005. The learning rate is decreased from $10^{-2}$ to $10^{-4}$. The batch size is set to 2 and the network is trained for 90000 iterations. Our tracker is implemented in Python, using PyTorch.

**表 1.1 Performance of our algorithm with different components on GOT-10k test set.**

| Temporal aggregation | Adversarial dropout | $AO$ | $SR_{0.50}$ | $SR_{0.75}$ |
|---|---|---|---|---|
| | | 0.542 | 0.607 | 0.456 |
| ✓ | | 0.561 | 0.645 | 0.480 |
| ✓ | ✓ | 0.577 | 0.662 | 0.509 |

**表 1.2 Comparing the results of our approach against other approaches over the GOT-10k test set.**

| Method | $AO$ | $SR_{0.50}$ | $SR_{0.75}$ |
|---|---|---|---|
| Ours | **0.577**[1] | **0.662**[1] | **0.509**[1] |
| SiamMask | 0.459 | 0.560 | 0.205 |
| SiamFCv2 | 0.374 | 0.404 | 0.144 |
| SiamFC | 0.348 | 0.353 | 0.098 |
| GOTURN | 0.347 | 0.375 | 0.124 |
| CCOT | 0.325 | 0.328 | 0.107 |
| ECO | 0.316 | 0.309 | 0.111 |
| CF2 | 0.315 | 0.297 | 0.088 |
| MDNet | 0.299 | 0.303 | 0.099 |

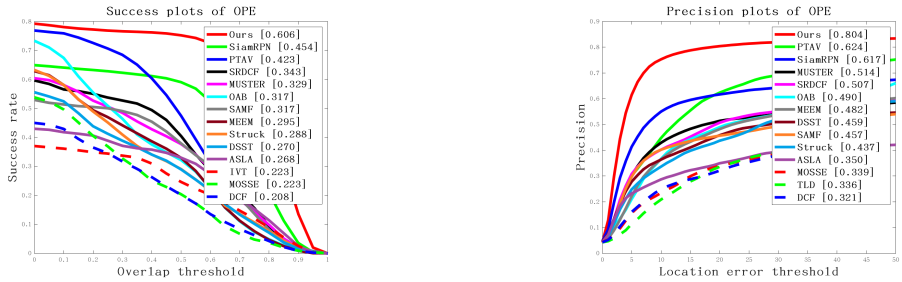



**图 1.3 Success and precision plots on UAV20L dataset.**

### 1.3.2 Evaluation on GOT-10k dataset

In this subsection, we evaluate our method on GOT-10k **?** dataset. GOT-10k is a recent large-scale high-diversity dataset consisting of over 10,000 video sequences with targets annotated by axis-aligned bounding boxes. The GOT-10k testing set includes 180 sequences with 84 different object classes and 32 motion patterns. As performance measure, we use the average overlap (AO) scores and success rate (SR) as proposed in **?**. The AO denotes the average of overlaps between all groundtruth and estimated bounding boxes, while the SR measures the percentage of successfully tracked frames where the overlaps exceed 0.5/0.75.

**Ablation Studies** From Table 1.1 (the $1^{st}$ and $2^{nd}$ row), we see that the AO performance increases by 1.9% by adding the temporal aggregation module. This is because the temporal aggregation module improves the per-frame features by aggregating temporal information from adjacent frames. From Table 1.1 (the $2^{nd}$ and $3^{rd}$ row), we see that with the adversarial dropout module, the AO increases by 1.6%. This is because the adversarial dropout module improves the discrimination power of our siamese tracking network.

**Overall Performance** We compare our proposed method with 8 trackers, including state-of-the-arts. The performances of the evaluated trackers is shown in Table 1.2. Compared to other listed approaches, our approach achieves a superior AO of 0.577. Compared with SiamMask, our tracker aims to make full use of the temporal information. As a result, our tracker outperforms SiamMask by 11.8% in terms of AO, which highlights the importance of the proposed temporal aggregation module.

### 1.3.3 Evaluation on UAV20L dataset

In this subsection, we evaluate our tracker on the UAV20L **?** long term tracking dataset. It contains 20 HD video sequences captured from a low-altitude aerial perspective with average sequence length of 2934 frames. In this experiment, all trackers are compared using two measures: precision and success. Precision is measured as the distance between the centers of the predicted bounding box and the corresponding ground truth bounding box. Success is measured as the intersection over union of pixels in predicted bounding box and those in ground truth bounding box. In Fig. 1.3, we can find that the proposed algorithm achieves better tracking performance compared with some representative trackers. In the success plot, our tracker obtains an AUC score of 0.606. In the precision plot, the proposed algorithm obtains a score of 0.804. It shows that our tracker surpass other state-of-the-art algorithms, such as SiamRPN **?** and PTAV **?**. This demonstrates the effectiveness of our tracker in long-term tracking scenario.

## 1.4 Conclusion

In this paper, we introduce a novel siamese architecture for visual object tracking. Specifically, our proposed algorithm contains two main modules, *i.e.* temporal aggregation module and adversarial dropout module. The temporal aggregation module improves the per-frame features by aggregating features of adjacent frames. The adversarial dropout module improves the discrimination power of the siamese tracking network. Extensive experimental results show that the proposed algorithm performs favorably against the state-of-the-art algorithms.

# 第2章 LaTeX使用说明

为方便使用及更好地展示LaTeX排版的优秀特性，ucasthesis的框架和文件体系进行了细致地处理，尽可能地对各个功能和板块进行了模块化和封装，对于初学者来说，众多的文件目录也许一开始让人觉得有些无所适从，但阅读完下面的使用说明后，会发现原来使用思路是简单而清晰的，而且，当对LaTeX有一定的认识和了解后，会发现其相对Word类排版系统极具吸引力的优秀特性。所以，如果是初学者，请不要退缩，请稍加尝试和坚持，以领略到LaTeX的非凡魅力，并可以通过阅读相关资料如LaTeX Wikibook (Wikibook, 2014) 来完善自己的使用知识。

## 2.1 先试试效果

1. 安装软件：根据所用操作系统和章节 **??**中的信息安装LaTeX编译环境。

2. 获取模板：下载 ucasthesis 模板并解压。ucasthesis模板不仅提供了相应的类文件，同时也提供了包括参考文献等在内的完成学位论文的一切要素，所以，下载时，推荐下载整个ucasthesis文件夹，而不是单独的文档类。

3. 编译模板：

(a) Windows：双击运行artratex.bat脚本。

(b) Linux或MacOS: `terminal -> chmod +x ./artratex.sh -> ./artratex.sh xa`

(c) 任意系统：都可使用LaTeX编辑器打开Thesis.tex文件并选择xelatex编译引擎进行编译。

4. 错误处理：若编译中遇到了问题，请先查看“常见问题”（章节 2.4）。

编译完成即可获得本PDF说明文档。而这也完成了学习使用ucasthesis撰写论文的一半进程。什么？这就学成一半了，这么简单？？？，是的，就这么简单！

## 2.2 文档目录简介

### 2.2.1 Thesis.tex

Thesis.tex为主文档，其设计和规划了论文的整体框架，通过对其的阅读可以了解整个论文框架的搭建。

### 2.2.2 编译脚本

- Windows：双击Dos脚本artratex.bat可得全编译后的PDF文档，其存在是为了帮助不了解LaTeX编译过程的初学者跨过编译这第一道坎，请勿通过邮件传播和接收此脚本，以防范Dos脚本的潜在风险。
- Linux或MacOS：在terminal中运行
  - `./artratex.sh xa`：获得全编译后的PDF文档
  - `./artratex.sh x`：快速编译，不会生成文献引用

全编译指运行 `xelatex+bibtex+xelatex+xelatex` 以正确生成所有的引用链接，如目录，参考文献及引用等。在写作过程中若无添加新的引用，则可用快速编译，即只运行一遍LaTeX编译引擎以减少编译时间。

### 2.2.3 Tmp文件夹

运行编译脚本后，编译所生成的文档皆存于Tmp文件夹内，包括编译得到的PDF文档，其存在是为了保持工作空间的整洁，因为好的心情是很重要的。

### 2.2.4 Style文件夹

包含ucasthesis文档类的定义文件和配置文件，通过对它们的修改可以实现特定的模版设定。

1. ucasthesis.cls：文档类定义文件，论文的最核心的格式即通过它来定义的。
2. ucasthesis.cfg：文档类配置文件，设定如目录显示为“目 录”而非“目录”。
3. artratex.sty: 常用宏包及文档设定，如参考文献样式、文献引用样式、页眉页脚设定等。这些功能具有开关选项，常只需在Thesis.tex中进行启用即可，一般无需修改artratex.sty本身。
4. artracom.sty：自定义命令以及添加宏包的推荐放置位置。

### 2.2.5 Tex文件夹

文件夹内为论文的所有实体内容，正常情况下，这也是**使用ucasthesis撰写学位论文时，主要关注和修改的一个位置，注：所有文件都必须采用UTF-8编码，否则编译后将出现乱码文本**，详细分类介绍如下：

- Frontinfo.tex：为论文中英文封面信息。**论文封面会根据英文学位名称如Bachelor，Master，Doctor, Postdoctor 自动切换为相应的格式。**
- Frontmatter.tex：为论文前言内容如中英文摘要等。
- Mainmatter.tex：索引需要出现的Chapter。开始写论文时，可以只索引当前章节，以快速编译查看，当论文完成后，再对所有章节进行索引即可。
- Chap_xxx.tex：为论文主体的各章，可根据需要添加和撰写。**添加新章时，可拷贝一个已有的章文件再重命名，以继承文档的 UTF8 编码。**
- Appendix.tex：为附录内容。
- Backmatter.tex：为发表文章信息和致谢部分等。

### 2.2.6 Img文件夹

用于放置论文中所需要的图类文件，支持格式有：.jpg, .png, .pdf。其中，`ucas_logo.pdf`为国科大校徽。不建议为各章节图片建子目录，即使图片众多，若命名规则合理，图片查询亦是十分方便。

### 2.2.7 Biblio文件夹

1. ref.bib：参考文献信息库。

## 2.3 数学公式、图表、参考文献等功能

### 2.3.1 数学公式

比如Navier-Stokes方程（方程 (2.1)）：

$$\begin{cases} \frac{\partial \rho}{\partial t} + \nabla \cdot (\rho \boldsymbol{V}) = 0 \text{ times math test} : 1, 2, 3, 4, 5, 1, 2, 3, 4, 5 \\ \frac{\partial (\rho \boldsymbol{V})}{\partial t} + \nabla \cdot (\rho \boldsymbol{V} \boldsymbol{V}) = \nabla \cdot \boldsymbol{\sigma} \text{ times text test: 1,2,3,4,5} \\ \frac{\partial (\rho E)}{\partial t} + \nabla \cdot (\rho E \boldsymbol{V}) = \nabla \cdot (k \nabla T) + \nabla \cdot (\boldsymbol{\sigma} \cdot \boldsymbol{V}) \end{cases} \qquad \ldots (2.1)$$

$$\frac{\partial}{\partial t} \int\limits_{\Omega} u \, \mathrm{d}\Omega + \int\limits_{S} \mathbf{n} \cdot (u \boldsymbol{V}) \, \mathrm{d}S = \dot{\phi} \qquad \ldots (2.2)$$

$$\mathcal{L}\{f\}(s) = \int_{0^-}^{\infty} f(t) e^{-st} \, \mathrm{d}t, \; \mathscr{L}\{f\}(s) = \int_{0^-}^{\infty} f(t) e^{-st} \, \mathrm{d}t$$

$$\mathcal{F}\big(f(x + x_0)\big) = \mathcal{F}\big(f(x)\big) e^{2\pi i \xi x_0}, \; \mathscr{F}\big(f(x + x_0)\big) = \mathscr{F}\big(f(x)\big) e^{2\pi i \xi x_0}$$

数学公式常用命令请见 WiKibook Mathematics。artracom.sty中对一些常用数据类型如矢量矩阵等进行了封装，这样的好处是如有一天需要修改矢量的显

示形式，只需单独修改artracom.sty中的矢量定义即可实现全文档的修改。

### 2.3.2 数学环境

**公理 2.1.** 这是一个公理。

**定理 2.2.** 这是一个定理。

**引理 2.3.** 这是一个引理。

**推论 2.4.** 这是一个推论。

**断言 2.5.** 这是一个断言。

**命题 2.6.** 这是一个命题。

证明. 这是一个证明。 □

**定义 2.1.** 这是一个定义。

**例 2.1.** 这是一个例子。

注. 这是一个注。

### 2.3.3 表格

请见表 2.1。

**表 2.1 这是一个样表。**

**Table 2.1 This is a sample table.**

| 行号 | 跨多列的标题 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Row 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Row 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Row 3 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Row 4 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

制图制表的更多范例，请见 ucasthesis 知识小站 和 WiKibook Tables。

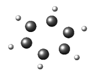


**图 2.1 Q判据等值面图，同时测试一下一个很长的标题，比如这真的是一个很长很长很长很长很长很长很长很长的标题。**

**Figure 2.1 Isocontour of Q criteria, at the same time, this is to test a long title, for instance, this is a really very long very long very long very long very long title.**

### 2.3.4 图片插入

论文中图片的插入通常分为单图和多图，下面分别加以介绍：

单图插入：假设插入名为`c06h06`（后缀可以为.jpg、.png、.pdf，下同）的图片，其效果如图 2.1。

如果插图的空白区域过大，以图片`c06h06`为例，自动裁剪如图 2.2。

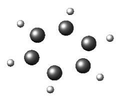


**图 2.2 激波圆柱作用。**

**Figure 2.2 Shock-cylinder interaction.**

多图的插入如图 2.3，多图不应在子图中给文本子标题，只要给序号，并在主标题中进行引用说明。

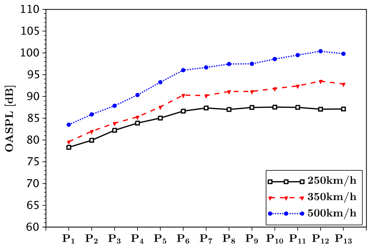
### 2.3.5 算法

如见算法 1，详细使用方法请参见文档 algorithmicx。

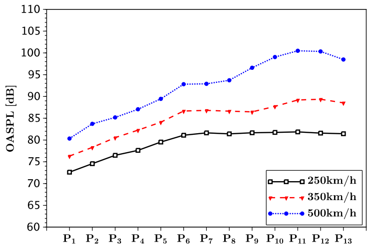
### 2.3.6 参考文献引用

参考文献引用过程以实例进行介绍，假设需要引用名为"Document Preparation System"的文献，步骤如下：

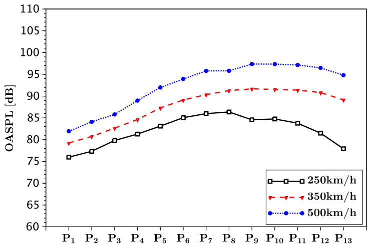
1）使用Google Scholar搜索Document Preparation System，在目标条目下点击Cite，展开后选择Import into BibTeX打开此文章的BibTeX索引信息，将它们copy添



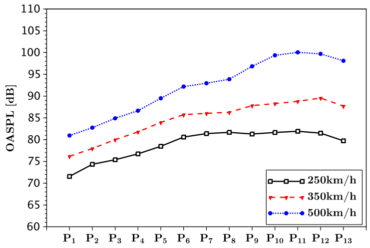

**(a)**




**(b)**




**(c)**




**(d)**

**图 2.3** 总声压级。**(a)** 这是子图说明信息，**(b)** 这是子图说明信息，**(c)** 这是子图说明信息，**(d)** 这是子图说明信息。

**Figure 2.3 OASPL.(a) This is the explanation of subfig, (b) This is the explanation of subfig, (c) This is the explanation of subfig, (d) This is the explanation of subfig.**

**算法 1** Euclid's algorithm

**procedure** EUCLID($a, b$) ▷ The g.c.d. of a and b

  $r \leftarrow a \bmod b$

  **while** $r \neq 0$ **do** ▷ We have the answer if r is 0

    $a \leftarrow b$

    $b \leftarrow r$

    $r \leftarrow a \bmod b$

  **end while**

  **return** $b$ ▷ The gcd is b

**end procedure**

加到ref.bib文件中（此文件位于Biblio文件夹下）。

2）索引第一行`@article{lamport1986document,`中`lamport1986document`即为此文献的label (**中文文献也必须使用英文label**，一般遵照：姓氏拼音+年份+标题第一字拼音的格式)，想要在论文中索引此文献，有两种索引类型：

文本类型：`\citet{lamport1986document}`。正如此处所示 Lamport (1986);

括号类型：`\citep{lamport1986document}`。正如此处所示 (Lamport, 1986)。

**多文献索引用英文逗号隔开：**

`\citep{lamport1986document, chu2004tushu, chen2005zhulu}`。正如此处所示 (Lamport, 1986; 初景利, 2004; 陈浩元, 2005)

更多例子如：

Walls 等 (2013) 根据 Betts 等 (2005) 的研究，首次提出...。其中关于... (Walls 等, 2013; Betts 等, 2005)，是当前中国...得到迅速发展的研究领域 (陈晋镳 等, 1980; Bravo 等, 1990)。引用同一著者在同一年份出版的多篇文献时，在出版年份之后用英文小写字母区别，如：(袁训来 等, 2012a,b,c) 和 袁训来 等 (2012a,b,c)。同一处引用多篇文献时，按出版年份由近及远依次标注。例如 (陈晋镳 等, 1980; Stamerjohanns 等, 2009; 哈里森·沃尔德伦, 2012; 牛志明 等, 2013)。

使用著者-出版年制（authoryear）式参考文献样式时，中文文献必须在BibTeX索引信息的 **key** 域（请参考ref.bib文件）填写作者姓名的拼音，才能使得文献列表按照拼音排序。参考文献表中的条目（不排序号），先按语种分类排列，语种顺序是：中文、日文、英文、俄文、其他文种。然后，中文按汉语拼音字母顺序排列，日文按第一著者的姓氏笔画排序，西文和俄文按第一著者姓氏首字母顺序排列。如中 (牛志明 等, 2013)、日 (ボハンデ, 1928)、英 (Stamerjohanns 等, 2009)、俄 (Дубровин, 1906)。

如此，即完成了文献的索引，请查看下本文档的参考文献一章，看看是不是就是这么简单呢？是的，就是这么简单！

不同文献样式和引用样式，如著者-出版年制（authoryear）、顺序编码制（numbers）、上标顺序编码制（super）可在Thesis.tex中对artratex.sty调用实现，详见 ucasthesis 知识小站之文献样式

参考文献索引的更多知识，请见 WiKibook Bibliography。

## 2.4 常见使用问题

1. 模板每次发布前，都已在Windows，Linux，MacOS系统上测试通过。下载模板后，若编译出现错误，则请见 ucasthesis知识小站 的 编译指南。

2. 模板文档的编码为UTF-8编码。所有文件都必须采用UTF-8编码，否则编译后生成的文档将出现乱码文本。若出现文本编辑器无法打开文档或打开文档乱码的问题，请检查编辑器对UTF-8编码的支持。如果使用WinEdt作为文本编辑器（**不推荐使用**），应在其Options -> Preferences -> wrapping选项卡下将两种Wrapping Modes中的内容：

TeX;HTML;ANSI;ASCII|DTX...

修改为：TeX;**UTF-8|ACP;**HTML;ANSI;ASCII|DTX...

同时，取消Options -> Preferences -> Unicode中的Enable ANSI Format。

3. 推荐选择xelatex或lualatex编译引擎编译中文文档。编译脚本的默认设定为xelatex编译引擎。你也可以选择不使用脚本编译，如直接使用 LATEX文本编辑器编译。注：LATEX文本编辑器编译的默认设定为pdflatex编译引擎，若选择xelatex或lualatex编译引擎，请进入下拉菜单选择。为正确生成引用链接和参考文献，需要进行**全编译**。

4. Texmaker使用简介

(a) 使用 Texmaker “打开 (Open)” Thesis.tex。

(b) 菜单“选项 (Options)” -> “设置当前文档为主文档 (Define as Master Document)”

(c) 菜单“自定义 (User)” -> “自定义命令 (User Commands)” -> “编辑自定义命令 (Edit User Commands)” -> 左侧选择“command 1”，右侧“菜单项 (Menu Item)” 填入 Auto Build -> 点击下方“向导 (Wizard)” -> “添加 (Add)”: xelatex + bibtex + xelatex + xelatex + pdf viewer -> 点击“完成 (OK)”

(d) 使用 Auto Build 编译带有未生成引用链接的源文件，可以仅使用 xelatex 编译带有已经正确生成引用链接的源文件。

(e) 编译完成，“查看(View)” PDF，在PDF中“ctrl+click” 可链接到相对应的源文件。

5. 模版的设计可能地考虑了适应性。致谢等所有条目都是通过最为通用的

`\chapter{item name}` and `\section*{item name}`

来显式实现的 (请观察Backmatter.tex)，从而可以随意添加，放置，和修改，如同一般章节。对于图表目录名称则可在ucasthesis.cfg中进行修改。

6. 设置文档样式: 在artratex.sty中搜索关键字定位相应命令，然后修改

(a) 正文行距：启用和设置 `\linespread{1.5}`，默认1.5倍行距。

(b) 参考文献行距：修改 `\setlength{\bibsep}{0.0ex}`

(c) 目录显示级数：修改 `\setcounter{tocdepth}{2}`

(d) 文档超链接的颜色及其显示：修改 `\hypersetup`

7. 文档内字体切换方法：

- 宋体：国科大论文模板ucasthesis 或 国科大论文模板ucasthesis
- 粗宋体：**国科大论文模板ucasthesis** 或 **国科大论文模板ucasthesis**
- 黑体：国科大论文模板ucasthesis 或 国科大论文模板ucasthesis
- 粗黑体：**国科大论文模板ucasthesis** 或 **国科大论文模板ucasthesis**
- 仿宋：国科大论文模板ucasthesis 或 国科大论文模板ucasthesis
- 粗仿宋：**国科大论文模板ucasthesis** 或 **国科大论文模板ucasthesis**
- 楷体：国科大论文模板*ucasthesis* 或 国科大论文模板*ucasthesis*
- 粗楷体：***国科大论文模板ucasthesis*** 或 ***国科大论文模板ucasthesis***

# 附录 A　中国科学院大学学位论文撰写要求

学位论文是研究生科研工作成果的集中体现，是评判学位申请者学术水平、授予其学位的主要依据，是科研领域重要的文献资料。根据《科学技术报告、学位论文和学术论文的编写格式》（GB/T 7713-1987）、《学位论文编写规则》（GB/T 7713.1-2006）和《文后参考文献著录规则》（GB7714—87）等国家有关标准，结合中国科学院大学（以下简称“国科大”）的实际情况，特制订本规定。

## A.1　论文无附录者无需附录部分

## A.2　测试公式编号 $\Lambda, \lambda, \theta, \bar{\Lambda}, \sqrt{S_{NN}}$

$$\begin{cases} \frac{\partial\rho}{\partial t} + \nabla\cdot(\rho\boldsymbol{V}) = 0 \\ \frac{\partial(\rho\boldsymbol{V})}{\partial t} + \nabla\cdot(\rho\boldsymbol{V}\boldsymbol{V}) = \nabla\cdot\boldsymbol{\sigma} \\ \frac{\partial(\rho E)}{\partial t} + \nabla\cdot(\rho E\boldsymbol{V}) = \nabla\cdot(k\nabla T) + \nabla\cdot(\boldsymbol{\sigma}\cdot\boldsymbol{V}) \end{cases} \qquad \ldots\ (\mathrm{A}.1)$$

$$\frac{\partial}{\partial t}\int\limits_{\Omega} u\,\mathrm{d}\Omega + \int\limits_{S} \mathbf{n}\cdot(u\boldsymbol{V})\,\mathrm{d}S = \dot{\phi} \qquad \ldots\ (\mathrm{A}.2)$$

$$\mathcal{L}\{f\}(s) = \int_{0^-}^{\infty} f(t)e^{-st}\,\mathrm{d}t,\ \mathscr{L}\{f\}(s) = \int_{0^-}^{\infty} f(t)e^{-st}\,\mathrm{d}t$$

$$\mathcal{F}\big(f(x+x_0)\big) = \mathcal{F}\big(f(x)\big)e^{2\pi i\xi x_0},\ \mathscr{F}\big(f(x+x_0)\big) = \mathscr{F}\big(f(x)\big)e^{2\pi i\xi x_0}$$

mathtext: $A, F, L, 2, 3, 5, \sigma$, mathnormal: $A, F, L, 2, 3, 5, \sigma$, mathrm: $\mathrm{A}, \mathrm{F}, \mathrm{L}, 2, 3, 5, \sigma$.

mathbf: $\mathbf{A}, \mathbf{F}, \mathbf{L}, \mathbf{2}, \mathbf{3}, \mathbf{5}, \sigma$, mathit: $\mathit{A}, \mathit{F}, \mathit{L}, \mathit{2}, \mathit{3}, \mathit{5}, \sigma$, mathsf: $\mathsf{A}, \mathsf{F}, \mathsf{L}, \mathsf{2}, \mathsf{3}, \mathsf{5}, \sigma$.

mathtt: $\mathtt{A}, \mathtt{F}, \mathtt{L}, \mathtt{2}, \mathtt{3}, \mathtt{5}, \sigma$, mathfrak: $\mathfrak{A}, \mathfrak{F}, \mathfrak{L}, \mathfrak{7}, \mathfrak{8}, , \sigma$, mathbb: $\mathbb{A}, \mathbb{F}, \mathbb{L}, \nvDash, \nVdash, \ntrianglelefteq, \sigma$.

mathcal: $\mathcal{A}, \mathcal{F}, \mathcal{L}, \in, \ni, \bigtriangledown, \sigma$, mathscr: $\mathscr{A}, \mathscr{F}, \mathscr{L}, , , , \sigma$, boldsymbol: $\boldsymbol{A}, \boldsymbol{F}, \boldsymbol{L}, \boldsymbol{2}, \boldsymbol{3}, \boldsymbol{5}, \boldsymbol{\sigma}$.

vector: $\boldsymbol{\sigma}, \boldsymbol{T}, \boldsymbol{a}, \boldsymbol{F}, \boldsymbol{n}$, unitvector: $\boldsymbol{\sigma}, \mathbf{T}, \mathbf{a}, \mathbf{F}, \mathbf{n}$

matrix: $\boldsymbol{\sigma}, \mathbf{T}, \mathbf{a}, \mathbf{F}, \mathbf{n}$, unitmatrix: $\boldsymbol{\sigma}, \mathbf{T}, \mathbf{a}, \mathbf{F}, \mathbf{n}$

tensor: $\boldsymbol{\sigma}, \boldsymbol{\mathsf{T}}, \boldsymbol{\mathsf{a}}, \boldsymbol{\mathsf{F}}, \boldsymbol{\mathsf{n}}$, unittensor: $\boldsymbol{\sigma}, \boldsymbol{\mathsf{T}}, \boldsymbol{\mathsf{a}}, \boldsymbol{\mathsf{F}}, \boldsymbol{\mathsf{n}}$

## A.3 测试生僻字

霜蟾盥薇曜灵霜颸妙鬘虚霁淩澌菀枯菡萏泬寥窅冥毰毸濩落霅霅便嬛岂峣瀺灂姽婳愔嫕飒纚棽俪緸冤莩甲摛藻卮言倥侗椒觞期颐夜阑彬蔚倥偬澄廓簪缨陟遐迤逦缥缃鹣鲽憯懔闺闼璀错媕婀噌吰澒洞阛阓覼缕玓瓑逡巡諓諓琭琭瀌瀌踽踽叆叇氤氲瓠犀流眄蹀躞赟嬛茕頔璎珞螓首蘅皋惏悷缱绻衵皴皱颟顸愀然菡萏卑陬纯懿犇麤掱喤墉塈墎墪墐墒墒墓墔墕墖墘墖墚墛坠墝增墠墡墢墣墤墥墦墧墨墩墪樽墬墭墮墯墰墱墲坟墴墵垯墷墸墹墺墙墼墽垦墿壀壁壂壃壄壅壆坛壈壉壊垱壌壍埙壏壐壑壒压壔壕壖壗垒圹垆壛壜壝垄壠壡坜壣壤壥壦壧壨坝塆圭嫶嫷嫸嫹嫺娴嫼嫽嫾嫿妫嬁嬂嬃嬄嬅嬆嬇娆嬉嬊娇嬍嬎嬏嬐嬑嬒嬓嬔嬕嬖嬗嬘嬙嬚嬛嬜嬞嬟嬠嬡嬢嬣嬥嬦嬧嬨嬩嬪嬫嬬奶嬬嬮嬯嬰嬱嬲嬳嬴嬵嬶嬷婶嬹嬺嬻嬼嬽嬾嬿孀孁孂娘孄孅孆孇孆孈孉孊娈孋孊孍孎孏嫫婿媚嵭嵮嵯嵰嵱嵲嵳嵴嵵嵶嵷嵸嵹嵺嵻嵼嵽嵾嵿嶀嵝嶂嶃崭嶅嶆岖嶈嶉嶊嶋嶌嶍嶎嶏嶐嶑嶒嶓嵚嶕嶖嶗嶙嶚嶛嶜嶝嶞嶟峤嶡峣嶣嶤嶥嶦峄峃嶩嶪嶫嶬嶭崄嶯嶰嶱嶲嶳岙嶵嶶嶷嵘嶹岭巁屿岳帋巆巁巂巃巄巅巆巇巈巉巊岿巌巍巎巏巐巑峦巓巅巕岩巗巘巙巚帋帊帍帣帤帨帩帪帬帯帰帱帲帴帵帷帹帺帻帼帽帾帿幀幂帏幄幅幆幇幈幉幊幋幌幍幎幏幐幑幒幓幖幙幚幛幜幝幞帜幠幡幢幣幥幦幧幨幩幪幭幮幯幰幱庁庎庑庖庳庇庝庠庡庢庣庤庥庨庩庪庬庮庯庰庱庲庳庴庵庹庺庻庼庽庿廀厕廃厩廅廆廇廋廌廍廎廏廐廑廒廔廕廖廗廘廙廛廜廞庑廘廥廦廧廨廭廮廯廰痈廲巡廸廹廻廼廽廿弁弃弆弇弉彐弙弟弜弝弞弡弢弣弤弨弩弪弫弭弮弰弲弳弴弶弸弻弼弽弿彖彗彘彙彛彜彝彞彟彴彵彶彷彸役彺彻彽彾佛徂徃徆徇徉后徍徎徏径徒従徔徕徖徙徚徛徜徝从徟徕御徢徣徤徥徦徧徨复循徫旁徭微徯徰徱徲徳徴徵徶德徸彻徺徻徾惔愔忇忈忉忔忕忖忚忛応忝忞忟忪挣捋挧挨挩挪挫挬挭挮挰掇授掉掊掋掍掎掐掑排掓掔掕掗掚挂掜掝掞掟掠采探掣掤掦措掫掬掭掮掯掰掱掲掳掴掵掶掸掹掺掻掼掽掾掿揀揁揂揃揅揄揆揇揈揉揊揋揌揍揎揑揓揔揕揖揗揘揙揤揥揦揧揨揫捂揰揱揲揳援揵揶揷揸揻揼揾揿搀搁搂搃搄搅搇搈搉搊搋搌搎搏搐搑搒摓摔摕摖摗摙摚摛摜摝摞摠摡斫斩斮斱斲斳斴斵斶斸旪旫旮旯晒晓晔晕晖晗晘晙晛晜晞晟晠晡晢晣晤晥晦晧晪晫晬晭晰晱晲晳晴晵晷晸晹晻晼晽晾晿暀暁暂暃暄暅暆暇晕晖暊暋暌暍暎暏暐暑暒暓暔暕暖暗旸暙暚暛暜暝暞暟暠暡暣暤暥暦暧暨暩暪暬暭暮暯暰昵暲暳暴暵

# 参考文献


陈浩元. 著录文后参考文献的规则及注意事项 [J]. 编辑学报, 2005, 17(6): 413-415.

陈晋镳, 张惠民, 朱士兴, 等. 蓟县震旦亚界研究 [M]//中国地质科学院天津地质矿产研究所. 中国震旦亚界. 天津: 天津科学技术出版社, 1980: 56-114.

初景利. 图书馆数字参考咨询服务研究 [M]. 北京: 北京图书馆出版社, 2004.

哈里森·沃尔德伦. 经济数学与金融数学 [M]. 谢远涛, 译. 北京: 中国人民大学出版社, 2012: 235-236.

牛志明, 斯温兰德, 雷光春. 综合湿地管理国际研讨会论文集 [C]. 北京: 海洋出版社, 2013.

袁训来, 陈哲, 肖书海. 蓝田生物群: 一个认识多细胞生物起源和早期演化的新窗口 – 篇一 [J]. 科学通报, 2012, 57(34): 3219.

袁训来, 陈哲, 肖书海. 蓝田生物群: 一个认识多细胞生物起源和早期演化的新窗口 – 篇二 [J]. 科学通报, 2012, 57(34): 3219.

袁训来, 陈哲, 肖书海. 蓝田生物群: 一个认识多细胞生物起源和早期演化的新窗口 – 篇三 [J]. 科学通报, 2012, 57(34): 3219.

ボハンデ. 過去及び現在に於ける英国と会 [J]. 日本時報, 1928, 17: 5-9.

Betts L R, Taylor C P. Aging reduces center-surround antagonism in visual motion processing [J]. Neuron, 2005, 45(3): 361-366.

Bravo H, Olavarria J. Comparative study of visual inter and intrahemispheric cortico-cortical connections in five native chilean rodents [J]. Anatomy and embryology, 1990, 181(1): 67-73.

Lamport L. Document preparation system [M]. Addison-Wesley Reading, MA, 1986.

Stamerjohanns H, Ginev D, David C, et al. MathML-aware article conversion from LaTeX [J]. Towards a Digital Mathematics Library, 2009, 16(2): 109-120.

Walls S C, Barichivich W J, Brown M E. Drought, deluge and declines: the impact of precipitation extremes on amphibians in a changing climate [J/OL]. Biology, 2013, 2(1): 399-418[2013-11-04]. http://www.mdpi.com/2079-7737/2/1/399. DOI: 10.3390/biology2010399.

Wikibook. http://en.wikibooks.org/wiki/latex [M]. On-line Resources, 2014.

ДубровинА.И.ОткрытоеписьмоПредседателяГлавногоСоветаСоюзаРусскогоНародаСанкт-ПетербургскомуАнтонию, ПервенствующемучленуСвященногоСинода [J]. Вече, 1906: 1-3.

# 作者简历及攻读学位期间发表的学术论文与研究成果

本科生无需此部分。

### 作者简历

#### casthesis作者

吴凌云，福建省屏南县人，中国科学院数学与系统科学研究院博士研究生。

#### ucasthesis作者

莫晃锐，湖南省湘潭县人，中国科学院力学研究所硕士研究生。

### 已发表(或正式接受)的学术论文:

1. ucasthesis: A LaTeX Thesis Template for the University of Chinese Academy of Sciences, 2014.

### 申请或已获得的专利:

(无专利时此项不必列出)

### 参加的研究项目及获奖情况:

可以随意添加新的条目或是结构。

# 致 谢

感激casthesis作者吴凌云学长，gbt7714-bibtex-style开发者zepinglee，和ctex众多开发者们。若没有他们的辛勤付出和非凡工作，LaTeX菜鸟的我是无法完成此国科大学位论文LaTeX模板ucasthesis的。在LaTeX中的一点一滴的成长源于开源社区的众多优秀资料和教程，在此对所有LaTeX社区的贡献者表示感谢！

ucasthesis国科大学位论文LaTeX模板的最终成型离不开以霍明虹老师和丁云云老师为代表的国科大学位办公室老师们制定的官方指导文件和众多ucasthesis用户的热心测试和耐心反馈，在此对他们的认真付出表示感谢。特别对国科大的赵永明同学的众多有效反馈意见和建议表示感谢，对国科大本科部的陆晴老师和本科部学位办的丁云云老师的细致审核和建议表示感谢。谢谢大家的共同努力和支持，让ucasthesis为国科大学子使用LaTeX撰写学位论文提供便利和高效这一目标成为可能。