

How to Write a Quality Technical Paper and Where to Publish Within IEEE

如何撰写高质量科技论文以及在IEEE进行论文发表

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Outline

- I. Publishing Choices 出版渠道选择
- II. Choose an Audience 选择受众
- III. Ethics 学术道德
- IV. Where to Publish 何处出版
- V. Open Access 开放存取
- VI. Impact Factor 影响因子
- VII. How to Write a Quality Technical Paper 怎样撰写高质量科技论文
- VIII. How to Write a Response Letter 如何回复审稿意见

I. Publish Choice 出版渠道选择

- 英文期刊、英文会议、中文期刊、中文会议？
- A **journal article** is a fully developed presentation of your work and its final findings.
期刊文章是研究工作和最终结果的完整展示
 - Original research results presented **展示原创研究结果**
 - Clear conclusions are made and supported by the data **做出清晰推论，并辅以数据支持**
- A **conference article** can be written while research is ongoing.
会议文章可以是正在进行没有完成的研究
 - Can present preliminary results or highlight recent work **可展示初期成果或强调最近工作**
 - Gain informal feedback to use in your research **获得非正式反馈用于后续研究**
- Conference articles are typically shorter than journal articles, with less detail and fewer references. **会议论文通常短于期刊论文, 细节和参考文献也少些**
- **中文论文还是英文论文**: 国际影响和国内影响, 创新大小, 发表时间, 语言把控能力, 国际热点还是国内热点, 等等。

IEEE Journal or IEEE Conference?

发表IEEE期刊或会议?

IEEE Journals



- IEEE journals are cited **3 times more often** in patent applications than other leading publisher's journals.

IEEE期刊被引次数高



- A high percentage of articles submitted to any professional publication are rejected

投稿期刊被拒机率高

IEEE Conferences

- IEEE Conference proceedings are recognized worldwide as the most vital collection of consolidated published articles in EE, computer science, and related fields.

IEEE会议论文是全球电子电气计算机方向最重要内容

- Per IEEE Policy, if you do not present your article at a conference, it may be suppressed in IEEE Xplore and not indexed in other databases.

作者须现场展示论文后,文章才能收入IEEE Xplore

Finding the Right IEEE Publication or IEEE Conference

选择合适的IEEE期刊或会议

IEEE has 170 unique publications covering a wide range of technical areas.

170多种IEEE期刊

IEEE publishes 1,200+ leading-edge conference proceedings every year.

每年1200多个IEEE前沿会议

■ Review the journal listings

浏览期刊列表

- Who reads it 受众
- What they publish 内容
- What kinds of articles they want 期待文章类型

■ Review the conference calendar

浏览会议列表

- Find a good match for your research subject matter 寻找与研究方向吻合的会议
- Ensure you are available to present 确保你可以出席会议

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II. Choose an Audience 选择受众

■ Basic Questions 基本问题

- Are you writing this paper for the sake of writing a paper?
你是为了写论文而写论文?
- Or do you want to make a difference in your technical community?
还是想在某个技术群体中做出贡献?

Scientific Research Publishing 科学研究出版

- Who writes scientific papers? 谁在撰写科技文章?
 - Whoever solves a new and important problem in their field
在各自领域解决全新重要问题的研究者
 - Engineers, scientists, educators and researchers from:
来自不同机构的工程师、科学家和教育者
 - Corporations
 - Academia
 - Government
 - Students typically write and present conference papers before submitting journal articles
学生在发表期刊论文前通常先发表会议论文

What IEEE Editors and Reviewers are Looking For

IEEE编辑和评审人在寻找什么

- Content that is appropriate, in scope and level, for the journal
内容符合期刊收录范围
- Clearly written original material that addresses a new and important problem
清晰表达的原创研究，解决全新重要问题
- Valid methods and rationale 有效的方法
- Conclusions that make sense 有意义的结论
- Illustrations, tables and graphs that support the text
图表图像有力支持文字描述
- References that are current and relevant to the subject
能反映最近研究进展的相关参考文献
- **Similarity score < 25%: A high similarity score is an indication of lack of originality (exception: conference version or arXiv)**

How Does the Review Process Work?

论文评审是怎样一个过程?

- Editor-in-Chief gets the paper after it goes through content match check (iAuthenticate) and “banned author” check.
- If the paper is in scope for the journal, it is assigned to an (area) editor (associate editor).
- Editor assigns the paper to five or more reviewers.
- Reviewers send their comments back to the editor.
- Editor makes a recommendation to the EIC as follows:
 - **Accept**
 - **Revise & Resubmit (Minor Revision, Major Revision)**
 - **Reject (sometimes Resubmission is allowed)**
- The EIC makes the final decision and informs the corresponding author.

Why IEEE Editors and Reviewers Reject Papers

IEEE编辑和评审人拒稿原因

- The content is not a good fit for the publication (**out-of-scope**). 内容不适合该期刊
- There are serious scientific flaws: 严重的科学缺陷
 - Inconclusive results or incorrect interpretation 无法信服的结果或不正确的解释
 - Fraudulent research 学术造假
- It is poorly written. 文笔差
- It does not address a big enough problem or advance the scientific field. 没有解决重大问题或提升当前科技水平
- The work was previously published (**high similarity score**). 研究之前已经出版过
- The quality is not good enough for the journal. 质量没有达到期刊要求
 - **Examples of poor quality: high similarity score, short-length, aesthetics (poor presentation or writing), lack of mathematics and figures**
- Reviewers have misunderstood the article. 评审人误解文章

Example Paper Review Criteria (1/2)

■ Suitability & Significance:

- **Importance** - Does this represent a major advance or a useful contribution or is much of it routine or commercial?
- **Interest** - Is the paper likely to be of much interest to the Scientific Society? How is this interest likely to change over the next five years? (Growing/Steady/Diminishing)
- **Reference Value** - Will it have any permanent value or is it of temporary significance?

■ Novelty/Originality & Contribution:

- **Originality** - Is the information wholly or partly new, or mostly familiar?
- How would you describe the **novelty** of the underlying ideas? (Exciting new concepts / Complex but standard ideas / Simple but elegant and novel / Minor enhancements to known ideas / Trivial)
- Does the manuscript contain **new and significant information** to justify publication?

Example Paper Review Criteria (2/2)

■ Technical quality:

- **Accuracy** - Is the material consistent and correct; are the conclusions well supported?
- **References** - Is related work on this topic adequately recognised, barely mentioned, or neglected?
- Are the **experimental and/or theoretical methods** described comprehensively?

■ Organisation & Presentation:

- **Organisation** - Is the paper well organised and easy to follow?
- **Clarity** - Is it well written and concise, are ideas well expressed? Is the language acceptable?
- **Coverage** - Is the topic adequately and concisely treated, or is the treatment too brief or too wordy? Is the paper of appropriate length?
- **Illustrations** - Are the plots, diagrams and photos readily understandable; do they support the text? Is the number of tables and figures appropriate?
- Does the **introduction** give a clear summary of the results of the paper and a clear statement of the background and motivation?

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III. Ethics 学术道德

■ Types of misconduct 学术不端类型

Conflict of Interest 利益冲突

- A financial or other relationship with the publication at odds with the unbiased presentation of data or analysis

文章内容与出版方有利益冲突

Author Attribution 认可贡献

- Must be given if you use another author's ideas in your article, even if you do not directly quote a source

当使用他人想法时，即使不直接引，也需要给予认可

Plagiarism 剽窃

- Copying another person's work word for word or paraphrasing without proper citation

拷贝他人工作而没有进行正确引用

Author involvement/ contributions 作者贡献

- Include any and all who have made a substantial intellectual contribution to the work 标示任何做出重要贡献的作者
- Do not include minor contributors

不要标示小的贡献

Ethical Publishing 出版学术道德

Plagiarism 剽窃

- Avoid plagiarism 避免剽窃
 - Cite and separate any verbatim copied material
避免直接文字拷贝引用
 - Paraphrase reused text properly, and include citation
合理改述原文，并进行正确引用
 - Credit any reused ideas 对别人的想法要正确引用
 - Familiarize yourself with IEEE Policies 熟悉IEEE相关政策



Refer to our Tips Sheet
http://www.ieee.org/publications_standards/publications/authors/plagiarism_and_multiple_submissions.pdf

Ethical Publishing 出版学术道德 (Cont.)

Duplication, Redundancies & Multiple Submissions 重复冗余一稿多投

- Author must submit original work that:
作者必须提交原创作品
 - Has not appeared elsewhere for publication
没有在其他地方发表过
 - Is not under review for another refereed publication
没有在其他学术期刊进行评审
 - Cites previous work 引用以前相关工作
 - Indicates how it differs from the previously published work
表明如何和以前工作不同
 - Authors MUST also **inform the editor** when submitting any previously published work
当提交以前已出版工作时需要告知编辑



Refer to our Tips Sheet
http://www.ieee.org/publications_standards/publications/authors/plagiarism_and_multiple_submissions.pdf

Author Disambiguation

- ORCID (Open Researcher and Contributor ID)
研究者和贡献者的公开身份标识
 - ORCID is a registry of researcher identifiers. Each author who registers is given a unique 16-digit identifier.
 - Employment, education, and publication record can all be linked to ORCID.
 - IEEE (and many other publishers) require an ORCID ID to help tie an author to his or her publication record.
 - Without ORCID, it's hard to distinguish between multiple authors with the same name, or get a complete publication history when authors change their names.
 - For more information about ORCID, visit orcid.org.

Author Disambiguation (Cont.)

- As of July 11, 2016, all corresponding authors of IEEE journal articles will be required to link their profile to an ORCID ID.
- Coauthors will receive an email prompting them to create an ORCID ID, but this is optional.

Submission

- Step 1: Type, Title, & Abstract >
- Step 2: Attributes >
- Step 3: Authors & Institutions >**
- Step 4: Review Preferences >
- Step 5: Details & Comments >
- Step 6: File Upload >
- Step 7: Review & Submit >

Open Researcher and Contributor ID (ORCID) is a non-profit organization dedicated to solving the long-standing name ambiguity problem in scholarly communication by creating a central registry of unique identifiers for individual researchers and an open, transparent linking mechanism between ORCID and other current author identifier schemes. To learn more about ORCID, please visit <http://orcid.org/content/initiative>

To register for a new ORCID ID, click here.

To associate this account with your existing ORCID ID, click here.

Authors

* Selected Authors [Edit](#)

ORDER	ACTIONS	AUTHOR	INSTITUTION
1	Select...	Dr. Christopher Heid (Corresponding Author) christopher.heid@123never.123send.com	1, Thomson Reuters 375 Greenbrier Drive Charlottesville, VA, USA 22901

Add Author

Find using Author's email address

AuthorsEmail@example.com

[< Previous Step](#) [Save](#) [Save & Continue >](#)

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IV. Where to Publish 何处出版

■ 期刊类型

- Traditional Journals **传统期刊**
 - Users/Libraries pay for access **用户/图书馆付费访问**
- Open Access Journals **开放期刊**
 - Author pays, free download **作者付费，免费下载**
- Hybrid Journals **混合期刊**
 - Most articles are traditional, some are open access (author preference)
 - **大部分文章传统模式出版，部分采用OA出版（作者选择）**

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V. Open Access 开放存取

■ Open Access Opportunity for IEEE Authors (Author pay model) OA作者付费模式

- IEEE provides 3 open access publishing options to meet the varying needs of authors throughout their careers

IEEE提供3种OA选择以满足不同需求:

- New multidisciplinary mega journal

全新跨学科综合期刊

- Over 100+ Hybrid journals

100多种混合期刊

- Fully open access topical journals

完全OA主题期刊



<http://open.ieee.org/>

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VI. Impact Factor 影响因子

Are we depending too heavily on Impact Factors?

我们是否过度依赖影响因子？

There is more than one type of Impact Factor
不只一种影响因子存在

■ **Example:**

- **2018 Impact Factor**
= 2018年引用2016-2017年文章数/2016-2017年发长文总量
- **SCIS 2018 Impact Factor=1158/424=2.731**

Impact Factor from Journal Citation Reports



Journal Citation Reports

The recognized authority for evaluating journals

Description:

Journal Citation Reports® offers a systematic, objective means to critically evaluate the world's leading journals, with quantifiable, statistical information based on citation data. By compiling articles' cited references, JCR helps to measure research influence and impact at the journal and category levels, and shows the relationship between citing and cited journals. Available in Science and Social Sciences editions.

To find out more, visit us on the [Web of Science™](#) website



Systematic and objective

InCites Journal Citation Reports (1/2)

Rank	Full Journal Title	JCR Abbreviation	ISSN	Journal Impact Factor	5-Year Impact Factor	Article Influence Score
1	IEEE Communications Surveys and Tutorials	IEEE COMMUN SURV TUT	1553-877X	22.973	25.222	5.784
2	IEEE WIRELESS COMMUNICATIONS	IEEE WIREL COMMUN	1536-1284	11.000	10.145	2.846
3	IEEE COMMUNICATIONS MAGAZINE	IEEE COMMUN MAG	0163-6804	10.356	12.091	3.070
4	IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS	IEEE J SEL AREA COMM	0733-8716	9.302	9.242	2.930
5	IEEE NETWORK	IEEE NETWORK	0890-8044	7.503	7.344	1.871
6	IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS	IEEE T WIREL COMMUN	1536-1276	6.394	6.019	1.538
7	IEEE Vehicular Technology Magazine	IEEE VEH TECHNOL MAG	1556-6072	6.145	6.232	1.795

InCites Journal Citation Reports (2/2)

Rank	Full Journal Title	JCR Abbreviation	ISSN	Journal Impact Factor	5-Year Impact Factor	Article Influence Score
8	IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS	IEEE T INTELL TRANSP	1524-9050	5.744	6.064	1.221
9	IEEE TRANSACTIONS ON COMMUNICATIONS	IEEE T COMMUN	0090-6778	5.690	5.151	1.461
10	IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY	IEEE T VEH TECHNOL	0018-9545	5.339	4.864	1.094
11	IEEE Access	IEEE ACCESS	2169-3536	4.098	4.540	0.835
12	IEEE Wireless Communications Letters	IEEE WIREL COMMUN LE	2162-2337	3.546	3.234	0.929
13	IEEE Intelligent Transportation Systems Magazine	IEEE INTEL TRANSP SY	1939-1390	3.294	4.095	0.859
14	Science China-Information Sciences	SCI CHINA INFORM SCI	1674-733X	2.731	1.715	0.390
15	China Communications	CHINA COMMUN	1673-5447	1.882	1.482	0.240
16	WIRELESS COMMUNICATIONS & MOBILE COMPUTING	WIREL COMMUN MOB COM	1530-8669	1.396	1.364	0.211

How to Judge a Journal's Value

- **Impact Factor is not enough of a metric**
影响因子不是全部
- **Journal's reputation in the community is important**
学术界期刊名声很重要
- **For new and lesser known journals – look at the editorial board, their reputation**
知名度不高的新刊-重点看编委会成员
- **Number of Downloads** (IEEE uses this information for revenue distribution)
下载次数
- **Patent Citations** (Available from IEEE)
专利引用次数

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VII. How to Write a Quality Technical Paper

怎样撰写高质量科技论文

■ Paper Writing: Aims

- Graduation requirement (for students)
- Career/promotion
- Reputation
- Money
- **Share/convey information/ideas with the scientific community**
- **Highlight/summarise your work**
- **Convince others**

■ Paper Writing: Procedure

- Preparation (pre-writing)
- Draft
- Refinement (post-writing)

Paper Writing: Preparation (1/2)

■ Organizing equations

- Derivations should be logical and keep consistent orders, either forward or backward.
- Symbol denotations should keep consistency with the paper, such as the use of footnotes and headnotes.
- Use common denotations and try to keep identical denotations as in reference papers
- The meaning of every symbol should be clearly defined.
- Every symbol should be defined before use or immediately after use.
- Symbols with different footnotes and headnotes are regarded as new symbols.
- Derivations should be concise and contain necessary information.
- Write down and organize the complete derivations on paper

Paper Writing: Preparation (2/2)

- **Organizing numerical and simulation results (figures and tables)**
 - Choose appropriate figures and tables to be presented, bearing in mind what you want to illustrate using these figures/tables and what you want to conclude from them.
 - Ensure that the figures/tables contain sufficient information and the chosen values for the parameters are reasonable
 - For each figure/table,
 - List all the corresponding equations, symbols, and parameters used to obtain these results;
 - The figure/table caption should contain sufficient information or be self-explanatory.
 - The figure legend should contain proper names of the functions/curves.
 - Try to analyze the impact of the parameters on the trend of the curves.

Paper Writing: Draft

- **Start with Introduction (5 parts):**
 - What is the significance/importance of the topic/area? What are the possible applications?
 - What have been done in this area? Most references will be cited in this part.
 - What have not been done in this area? What are the potential solutions?
 - What have we done in this area? Or what are our main contributions?
 - What will be presented in the paper?
- Then, system and/or channel model, new ideas/algorithms/schemes, theoretical analysis, simulation results/experiments
- Conclusions/Abstract
- Conclusions/statements must be well supported by figures/tables.
- Organization/logic is the most important!
- Language needs not be difficult. In scientific writing, the best English is that which gives the sense in the fewest short words (Source: Journal of Bacteriology).
- Sentences/paragraphs/sections should all be coherent.

Paper Writing: Refinement

- **After the first draft, read by yourself for at least 2 more times! Sentence by sentence!**
 - Check those errors you often make, e.g., singular/plural, subject/object, etc.
 - List and group the checks; Follow the required format/style!
 - Try to read your own paper from a reader's point of view! If you were a reader not quite familiar with this area, can you easily understand the paper?
- Put aside your own paper for a while, e.g., a few days, and then read it again! Very often, you can easily spot more errors!
- Ask your colleagues to read/comment your paper and act as a reviewer!
- Ask your supervisor/coauthors to read/comment your paper!
- Combine all the comments and improve the paper!
- Do a final check before you finally submit your paper!
- Wait for the results—hopefully not completely negative after all the above!

Check List (1/2)

- **Before you send the paper to your supervisor or colleague, make sure that the following low-level mistakes are avoided:**
 - Abbreviations: Use “search” function! Define
 - Single/plural:
 - Subject/object:
 - Symbols: italic
 - Equations: Consider an equation as part of a sentence! If an equation is in the end of a sentence, a full stop should be used. In IEEE papers, commas after equations are neglected! Directly use an equation number when referring to it, unless it is in the beginning of a sentence! For example: In (2),; Equation (2) represents...
 - a and b; a, b, and c
 - Article (a, an, the, plural)

Check List (2/2)

- **Before you send the paper to your supervisor or colleague, make sure that the following low-level mistakes are avoided:**
 - Figure/table captions: 1) Use a full stop in the end; 2) It is a phrase, not a sentence; 3) Include all the parameters used to produce the figure/table!
 - Figures: 1) axis notation: description, symbol (unit)—e.g., power, p (watt); 2) Distinguish different curves using not only colour but also different notations such as solid line, dashed line, and dotted line;
 - Reference format—Follow IEEE format (conference papers, journal papers, books, reports, online documents, etc.)! Use appropriate abbreviations for journal names!
 - Tense: abstract (present tense), introduction (present tense, but past tense for literature review, conclusions (present past tense)
 - British/American English

Paper Structure: Elements of a Manuscript 主体结构

Title 题目

Abstract 文摘

Keywords 关键词

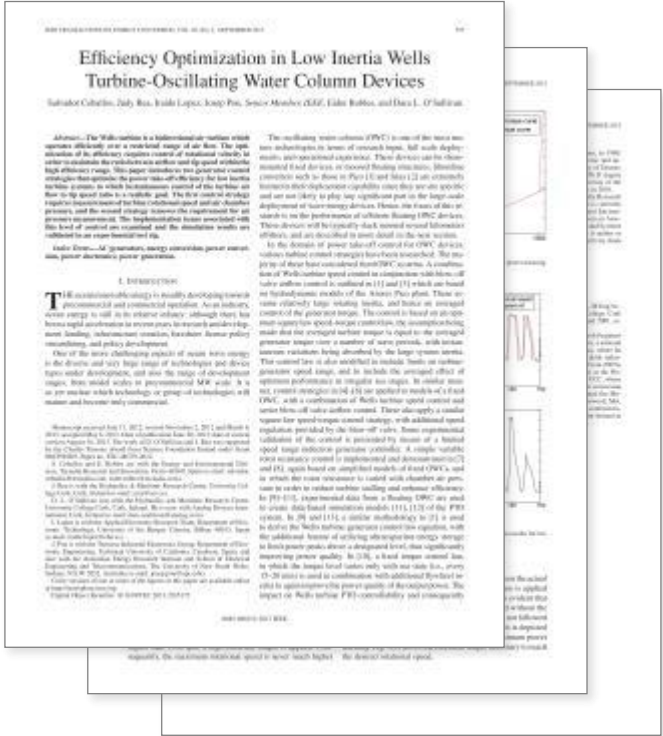
Introduction 引言

Methodology 方法

Results/Discussions/Findings 结果

Conclusions 总结

References 参考文献



Paper Structure: Title 题目

- An effective title should... 好的题目应该
 - Answer the reader's question:
“*Is this article relevant to me?*”
回答读者问题 “这篇文章与我相关吗？”
 - Grab the reader's attention 抓住读者兴趣
 - Describe the content of a paper using the fewest possible words
简洁描述文章内容
 - Is crisp, concise 简洁
 - Uses keywords 使用关键词
 - Avoids jargon 避免行业术语

Good
Title

VS.

Bad
Title

Paper Structure: Good vs. Bad Title 好题目/坏题目

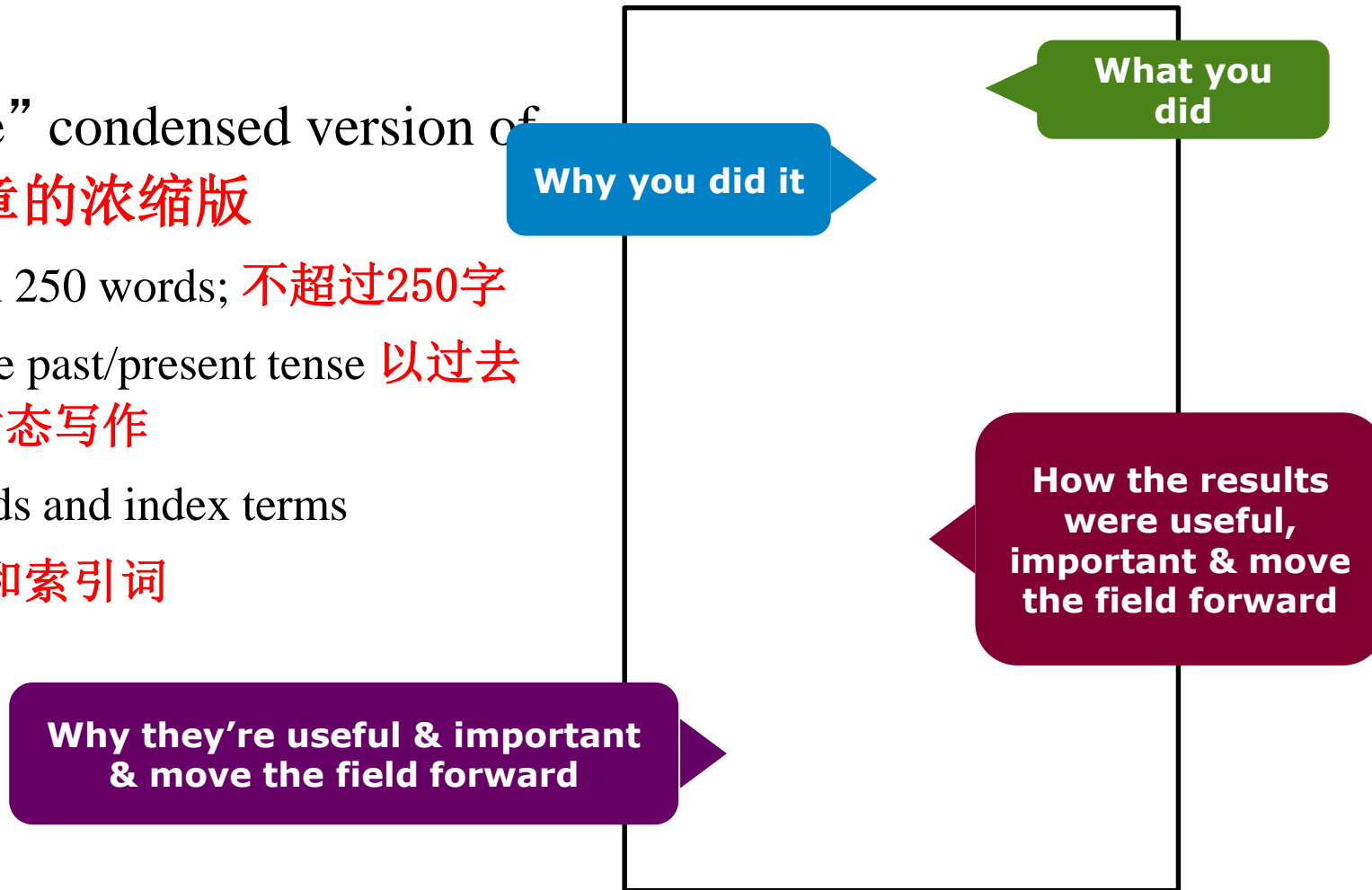
A Human Expert-based Approach to Electrical Peak Demand Management

VS

A better approach of managing environmental and energy sustainability via a study of different methods of electric load forecasting

Paper Structure: Abstract 文摘

- A “stand alone” condensed version of the article 文章的浓缩版
 - No more than 250 words; 不超过250字
 - Written in the past/present tense 以过去时态/现在时态写作
 - Uses keywords and index terms 使用关键词和索引词



Paper Structure: Good vs. Bad Abstract 好文摘/坏文摘

The **objective** of this paper was to propose a human expert-based **approach** to electrical peak demand management. The proposed approach helped to allocate demand curtailments (MW) among distribution substations (DS) or feeders in an electric utility service area based on requirements of the central load dispatch center. Demand curtailment allocation was quantified taking into account demand response (DR) potential and load curtailment priority of each DS, which can be determined using DS loading level, capacity of each DS, customer types (residential/commercial) and load categories (deployable, interruptible or critical). **Analytic Hierarchy Process (AHP) was used** to model a complex decision-making process according to both expert inputs and objective parameters. Simulation case studies were conducted to demonstrate how the proposed approach can be implemented to perform DR using real-world data from an electric utility. Simulation results **demonstrated that** the proposed approach is capable of achieving realistic demand curtailment allocations among different DSs to meet the peak load reduction requirements at the utility level.

Vs

This paper presents and assesses a framework for an engineering capstone design program. **We explain** how student preparation, project selection, and instructor mentorship are the three key elements that must be addressed before the capstone experience is ready for the students. **Next, we describe** a way to administer and execute the capstone design experience including design workshops and lead engineers. **We describe the importance** in assessing the capstone design experience and report recent assessment results of our framework. **We comment** specifically on what students thought were the most important aspects of their experience in engineering capstone design and provide quantitative insight into what parts of the framework are most important.

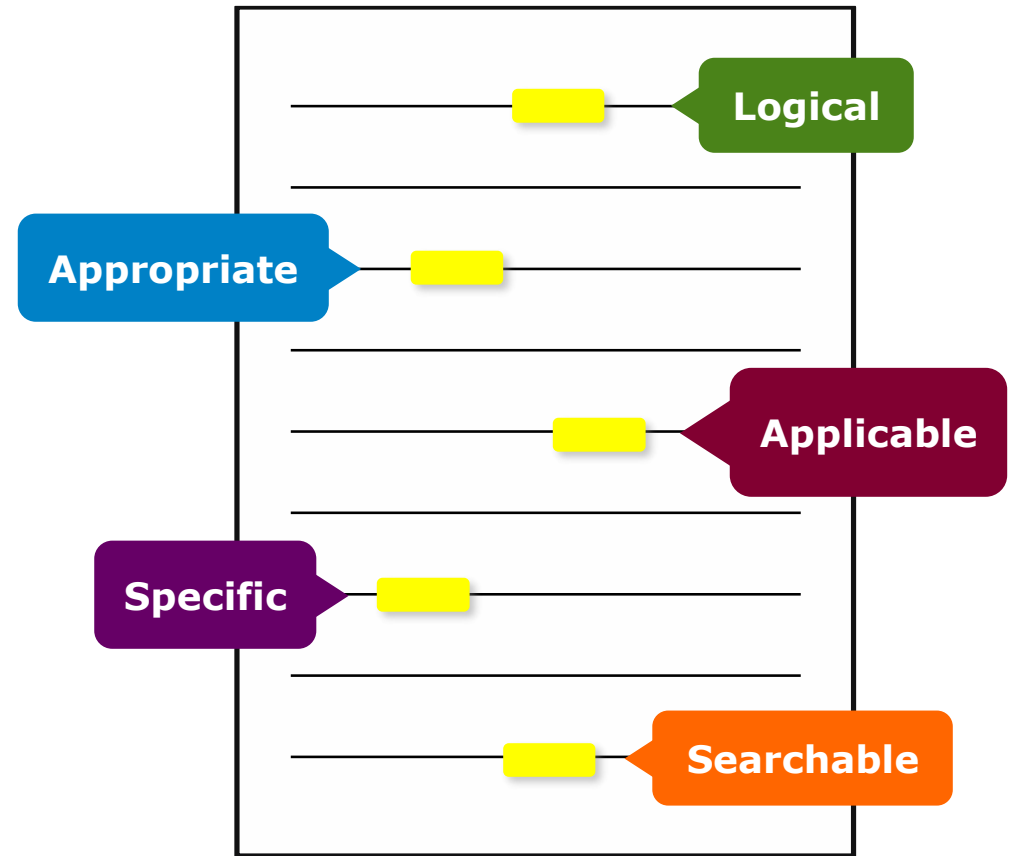
First person, present tense 第一人称, 现在时

No actual results, only describes the organization of the paper

没有展示实际结果, 只是描述文章结构

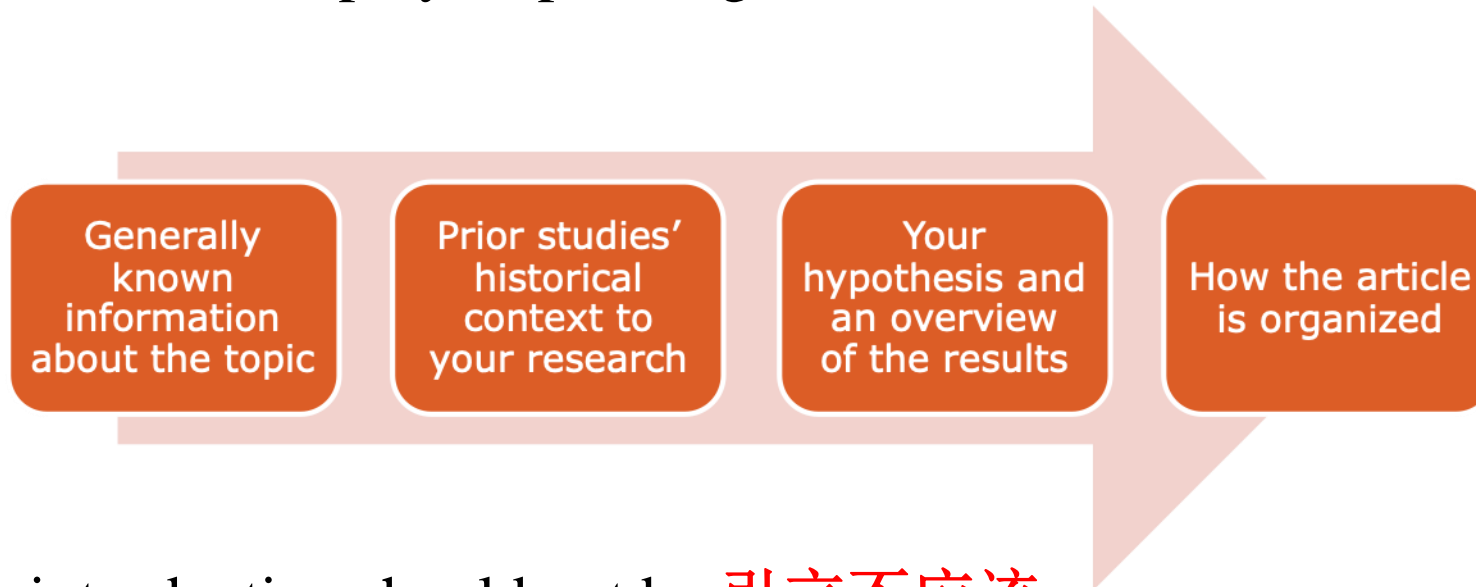
Paper Structure: Keywords 关键字

- Used in the Title and Abstract for enhanced Search Engine Optimization
用在题目和文摘中，以提升检索引擎精度



Paper Structure: Introduction 引言

- A description of the problem you researched 研究问题描述
- Written in the present tense 以现在时撰写
- It should move step by step through: 按照以下步骤



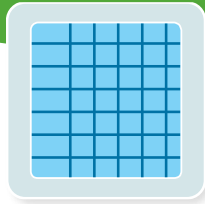
- The introduction should not be 引言不应该
 - Too broad or vague 太宽泛或太模糊
 - More than 2 pages 超过2页

Paper Structure: Methodology 方法

- Problem formulation and the processes used to solve the problem, prove or disprove the hypothesis 问题构想以及解决问题，证实或否认假想的过程
- Use illustrations to clarify ideas, support conclusions: 使用图解阐释想法并支持结论

Tables 表格

Present representative data or when exact values are important to show



Graphs 图表

Show relationships between data points or trends in data



Figures 图解

Quickly show ideas/conclusions that would require detailed explanations



Paper Structure: Results/Discussions 结果/讨论

- Demonstrate that you solved the problem or made significant advances

证明你解决问题或作出重大贡献

- Results: Summarized Data

结果：总结数据

- Should be clear and concise 应该清晰简洁
- Use figures or tables with narrative to illustrate findings 使用表格图解配合文字解释结果

- Discussion: Interprets the Results

讨论：阐释结果

- Why your research offers a new solution 为什么研究提出了一个新方案
- Acknowledge any limitations 列出研究缺陷

MINENI-MUNOZ et al.: LST RETRIEVAL METHODS FROM LANDSAT-8 THERMAL INFRARED SENSOR DATA

1803

the SC algorithm over the whole range of w values increase to 3–4 K, except for the TIGR-111 database, with an RMSE of 2 K. This last result is explained by the w distribution which is biased toward low values of w in this database. When only atmospheric profiles with w values between 3 g · cm⁻² are selected, the SC algorithm provides RMSEs around 1.5 K, with almost equal values of bias and standard deviation, around 1 K in both cases (with a negative bias for the SC underestimates the LST). In contrast, when only w values higher than 3 g · cm⁻² are considered, the SC algorithm provides RMSEs higher than 5 K. In these cases, it is preferable to calculate the atmospheric functions of the SC algorithm directly from (3) rather than approximating them by a polynomial fit approach as given by (4).

V. DISCUSSION AND CONCLUSION

The two Landsat-8 TIR bands allow the intercomparison of two LST retrieval methods based on different physical assumptions, such as the SC (only one TIR band required) and SW algorithms (two TIR bands required). Direct inversion of the radiative transfer equation, which can be used also as an SC algorithm, is assumed to be a reference under the condition that the input atmospheric (τ_1 , L_{\downarrow} , and L_{\uparrow}) is accurate. The algorithm presented in this letter is a continuous improvement of the algorithm developed for Landsat-4 and Landsat-5, as well as the ETM+ sensor on board the Landsat-7 [9], and it could be used to generate consistent LST data from the historical Landsat data using a single algorithm. An advantage of the SC algorithm is that, apart from surface emissivity, only water vapor content is required as input. However, it is expected that errors on LST become unacceptable for high water vapor contents (e.g., > 3 g · cm⁻²). This problem can be partly solved by computing the atmospheric functions directly from τ_1 , L_{\downarrow} , and L_{\uparrow} values [see (5)], or also by including air temperature as input [15]. A main advantage of the SW algorithm is that it performs well over global conditions and, thus, a wide range of water vapor values; and that it only requires water vapor as input (apart from surface emissivity at the two TIR bands). However, the SW algorithm can be only applied to the new Landsat-8 TIRS data, since previous TM/ETM sensors only had one TIR band.

The LST algorithms presented in this letter were tested with simulated data sets obtained for a variety of global atmospheric conditions and surface emissivities. The results showed RMSE values of typically less than 1.5 K, although for the SC algorithm, this accuracy is only achieved for w values below 3 g · cm⁻². Algorithm testing also showed that the SW errors are lower than the SC errors for increasing water vapor, and vice versa, as demonstrated in the simulation study presented in Sobrino and Jiménez-Muñoz [18]. Although an extensive validation exercise from *in situ* measurements is required to assess the performance of the two LST algorithms, the results obtained for the simulated data, the sensitivity analysis, as well as the previous findings for algorithms with the same mathematical structure give confidence in the algorithm accuracies estimated here.

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Results

Discussion



Paper Structure: Conclusions 总结

- Explain what the research has achieved **解释研究达到何种效果**
 - As it relates to the problem stated in the Introduction **与引言所阐述的问题关联**
 - Revisit the key points in each section **重新回顾每个部分关键点**
 - Include a summary of the main findings, important conclusions and implications for the field **包括重要发现、重要结论和推论的总结**
- Provide benefits and shortcomings of: **提供以下优缺点**
 - The solution presented **展示的解决方案**
 - Your research and methodology **你的研究和方法**
- Suggest future areas for research **建议未来研究方向**

Paper Structure: References 参考文献

- Support and validate the hypothesis your research proves, disproves or resolves

支持和证实你研究所证实、 否证或解决的假想

- There is no limit to the number of references.

参考文献数量无明确限制

- But use only those that directly support our work

但是只应列出与研究直接相关的文章

- Ensure proper author attribution

确保作者署名

- Author name, *article title*, publication name, publisher, year published, volume, chapter and page number
- IEEE journals generally follow a citation numbering system

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We then have

$$\begin{aligned} (P_1^{k+} + P_2^{k+})^2 - (P_1^{k+} - P_2^{k+})^2 + 4P_1^{k+}P_2^{k+} \\ < (P_1^{k+} - P_2^{k+})^2 + 4P_1^{k+}P_2^{k+} \\ - (P_1^{k+} + P_2^{k+})^2. \end{aligned} \quad (32)$$

Since $P_1^{k+} - P_2^{k+} = \hat{P}_1^{k+} - \hat{P}_2^{k+}$, we then have $P_1^{k+} < P_2^{k+}$, and $P_1^{k+} < \hat{P}_1^{k+}$. Because the operational cost is an increasing function of $\{P_1^{k+}, P_2^{k+}\}$, we obtain that

$$c_{opt}(P_1^{k+}, P_2^{k+}) < c_{opt}(\hat{P}_1^{k+}, \hat{P}_2^{k+}). \quad (33)$$

Therefore the optimal pair $\{P_1^{k+}, P_2^{k+}\}$ must satisfy that $P_1^{k+}P_2^{k+} = 0$, i.e., only one of P_1^{k+}, P_2^{k+} can be non-zero. ■

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Outline

- I. Publishing Choices 出版渠道选择
- II. Choose an Audience 选择受众
- III. Ethics 学术道德
- IV. Where to Publish 何处出版
- V. Open Access 开放存取
- VI. Impact Factor 影响因子
- VII. How to Write a Quality Technical Paper 怎样撰写高质量科技论文
- VIII. **How to Write a Response Letter** 如何回复审稿意见

VIII. How to Write a Response Letter ? 如何回复审稿意见

- Put aside decision letter & think about!
- Carefully consider reviewers' comments and do not ignore any comments
- Write a good (persuasive) reply to reviewers
- Point-to-point response
 - Agree: thanks for constructive; not agree: we respectfully disagree this point; confusion: we apologize this confusion.
 - Explain/Answer or how you have revised; Direct but concise!
 - Where have you revised ? (e.g., Page 10, Line 11)
 - In the paper, highlight the changes!
 - Soft, moderate
- Use colour to show changes you have made

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Thank you for your attention!

