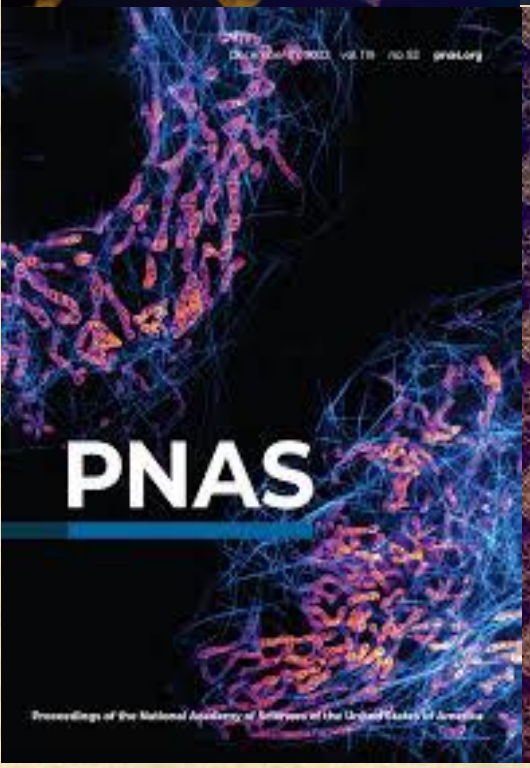

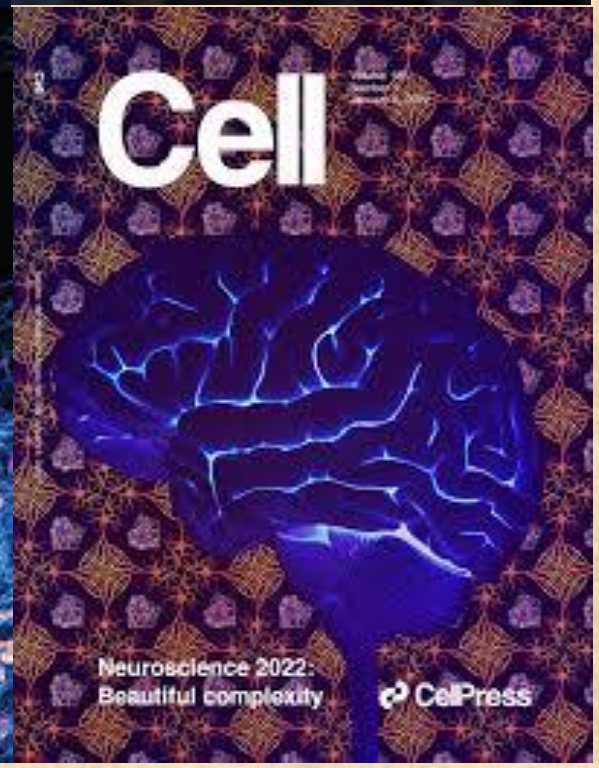

Academic Writing in English

LI Chengchen

李成陈

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October 26/27/28 2024

Session 1

- 1. Course description and assessment
- 2. The overall structure of a research paper
- 3. Abstract
- 4. Introduction

1. Course description and assessment

学术英语入门高级选修课排课表

校历周	日期、班级			授课教师	教学内容
第九周	10.28（周一） 选修 1 班	10.29（周二） 选修 2 班	10.30（周三） 选修 3 班	李成陈	● General structure ● Abstract ● Introduction
第十周	11.4（周一） 选修 1 班	11.5（周二） 选修 2 班	11.6（周三） 选修 3 班	孔德麟	● Literature review
第十一周	11.11（周一） 选修 1 班	11.12（周二） 选修 2 班	11.13（周三） 选修 3 班	施雅倩	● Methodology ● Research ethics
第十二周	11.18（周一） 选修 1 班	11.19（周二） 选修 2 班	11.20（周三） 选修 3 班	王娜	● Results ● Discussion ● Conclusion
第十三周	11.25（周一） 选修 1 班	11.26（周二） 选修 2 班	11.27（周三） 选修 3 班	李成陈 孔德麟 施雅倩 王娜	● 课程考核 ● Q & A

1. Assessment

- 共10分，主要由以下两方面构成。
- 1. 考勤，共5次课，每次签到。
- 2. 课程考核：小组展示（最后一次课进行）
- 任务描述：选一篇实证性的研究论文（非综述），聚焦论文主要结构与内容，进行小组展示。
- 任务要求：
- 1）论文需为WOS-SSCI/SCI JCR Q1一区期刊上发表的论文（登录图书馆网站查询期刊的JCR排名）；
- 2）小组人数：每组5-7人（请按照课堂上固定好的小组安排，否则找不到记录）；
- 3）分工与时间：每组共6-8分钟展示，组内每人至少1分钟；
- 4）超时扣分。

微助教建班

二维码有效期至：2024-11-25

刷新

课堂名称：学术英语 周一班

课堂编号：OC106

1、扫码关注公众号：微助教服务号。

2、点击系统通知：“点击此处加入【学术英语 周一班】课堂”，填写学生资料加入课堂。

*如未成功收到系统通知，请点击公众号下方“学生” - “全部(A)” - “加入课堂” --- “输入课堂编号”手动加入课堂

课堂名称：学术英语 周二班

课堂编号：OC107

1、扫码关注公众号：微助教服务号。

2、点击系统通知：“点击此处加入【学术英语 周二班】课堂”，填写学生资料加入课堂。

*如未成功收到系统通知，请点击公众号下方“学生” - “全部(A)” - “加入课堂” --- “输入课堂编号”手动加入课堂

二维码有效期至：2024-11-25

刷新

课堂名称：学术英语 周三班

课堂编号：OC108

1、扫码关注公众号：微助教服务号。

2、点击系统通知：“点击此处加入【学术英语 周三班】课堂”，填写学生资料加入课堂。

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二维码有效期至：2024-11-25

刷新

分组

- **Group 1-10**

●组长随机确定（微助教随抽）

●组员随机（先到先得），每组最多5-7人

●小组信息收集（问卷星）

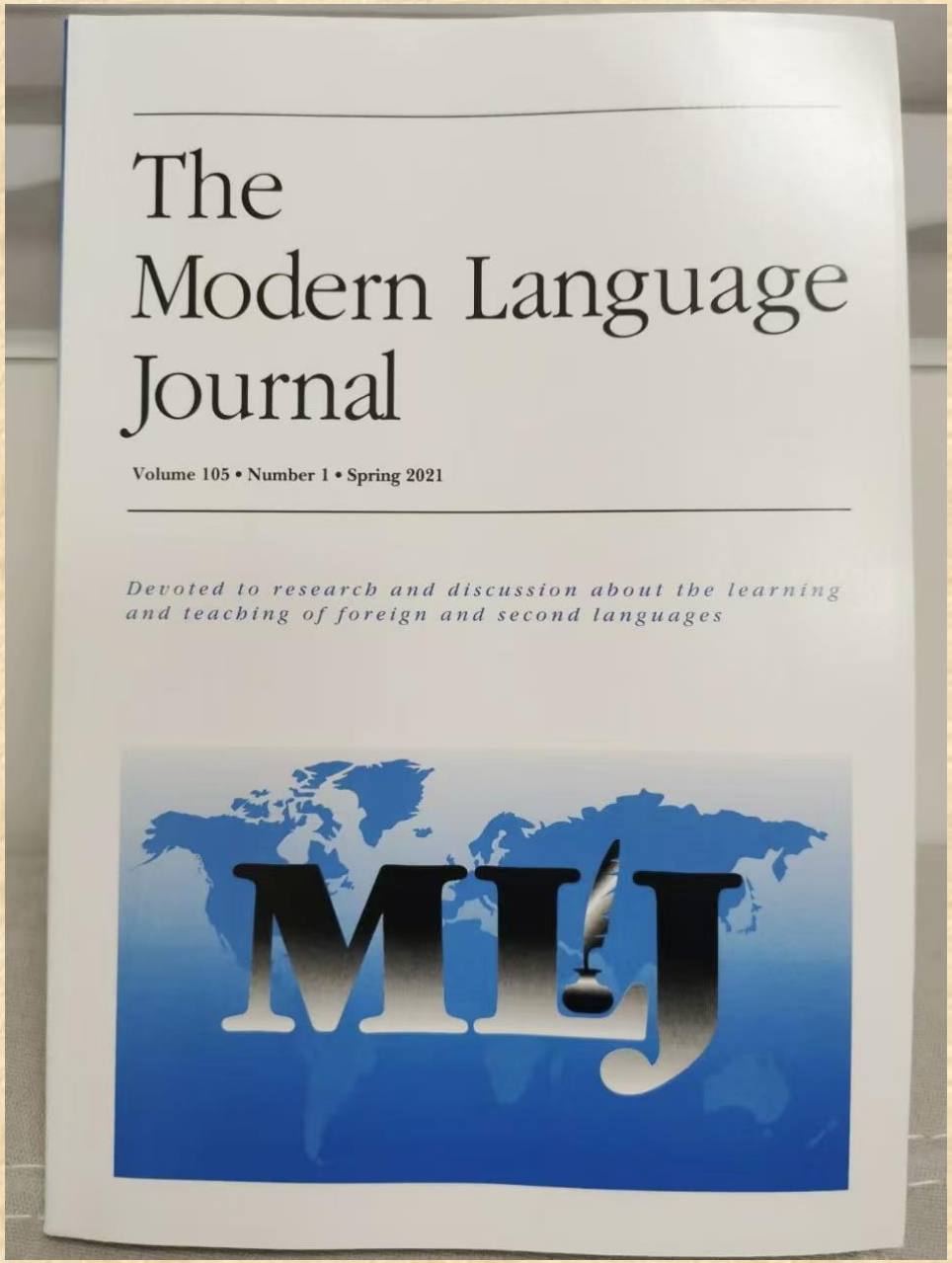
- Part 1: The overall structure

1. The overall structure of a research paper

- Please identify the **overall structure** of the paper below and describe the **primary function** of each section within the paper.

- Article 1: **Social Sciences (Print)**
- Li, C. (2021). A control–value theory approach to boredom in English classes among university students in China. *The Modern Language Journal*, *105*(1), 317-334.

- Student exploration



A Control–Value Theory Approach to Boredom in English Classes Among University Students in China

CHENGCHEN LI

Huazhong University of Science and Technology, School of Foreign Languages, 1037 Luoyu Road, Wuhan, 430074, China Email: lichengchen@hust.edu.cn

There is a growing research interest in a variety of emotions in foreign and second language (L2) classrooms, especially since the introduction of positive psychology. However, research on the ubiquitous emotional experience of boredom is scant. Building on its prevalence and documented deleterious effects, I argue that research on the antecedents for the instigation of boredom is needed. Based on the control–value theory (CVT) of achievement emotions in educational psychology, this study took a mixed methods approach to examine control–value appraisals as antecedents of boredom in English-as-a-foreign-language learning among Chinese university students. In line with CVT assumptions, Pearson correlation analyses and regression analyses ($N = 2{,}002$) showed that different control–value appraisals predicted boredom uniquely or interactively. Qualitative data from interviews with 11 students and 11 English teachers expanded the quantitative results by including more complexities in the associations between control–value appraisals and boredom. These findings provide further support for the CVT and help to elucidate the instigation of boredom in the L2 learning context. Directions for future research and implications for L2 educational practice are discussed.

Keywords: boredom; control–value theory; emotion; positive psychology; second language acquisition; English as a foreign language

The overall structure of a research paper
Social Sciences

- **Title**
- **Abstract**
- **Introduction**
- **Literature Review**
- **Research questions**
- **Methodology (Methods)**
- **Results**
- **Discussion**
- **Implications, Limitations, and Future Research Suggestions**
- **Conclusion**
- **References**
- ** Acknowledgments*
- ** Supplementary Materials (Appendix)*

- **Title**: Reflects the study's focus.

  Abstract: Summarizes the study briefly.

  Introduction: Introduces the topic, sets the context, highlights the **rationale** (significance & research gaps/problems), and states the research objectives briefly.

  Literature Review: Summarizes relevant studies and identifies research gaps (problems) to propose the Research Questions…

  Methodology: Details design, participants, data collection, data processing, data analysis, and ethics.

  Results: Displays findings.

  Discussion: Interprets results from a certain theoretical perspective and aligns them with existing research.

  Implications, Limitations, and Future Research: How can the research findings contribute to practice?

  Conclusion: Highlights key findings, implications, and future directions.

  References: Cites all sources used.

- ***Acknowledgments**: Credits contributors.*

  ***Supplementary Materials (Appendix)**: Expands on data or methods as needed.*

The overall structure of a research paper

- Please provide a summary of the overall structure of the two papers and describe the primary function of each section within each paper.

- Article 2: **Natural Sciences**
- Tian, Y., Hu, Y., Su, M., Jia, Q., Lian, X., & Jiao, L. (2024). Mitigation Measures Could Aggravate Unbalanced Nitrogen and Phosphorus Emissions from Land-Use Activities. *Environmental Science & Technology*, *58*(10), 4627-4636.

- Student exploration

The overall structure of a research paper (Natural Sciences)

- **Title**
- **Abstract**
- **Introduction (integrating introduction & literature review & research questions)**
- **Methodology (Methods)**
- **Results**
- **Discussion**
- **Implications, Limitations, and Future Research Suggestions**
- **Conclusion**
- **References**

- ** Acknowledgments*
- ** Supplementary Materials (Appendix)*

- Part 2: Abstract

An abstract is a compact overview, enabling readers to quickly grasp the essence of the study.

The main structure of an abstract

- Article 1: **Social Sciences**
- Li, C. (2021). A control–value theory approach to boredom in English classes among university students in China. *The Modern Language Journal*, *105*(1), 317-334.

- Article 2: **Natural Sciences**
- Tian, Y., Hu, Y., Su, M., Jia, Q., Lian, X., & Jiao, L. (2024). Mitigation Measures Could Aggravate Unbalanced Nitrogen and Phosphorus Emissions from Land-Use Activities. *Environmental Science & Technology*, *58*(10), 4627-4636.

- Student exploration

Article 1: Social Sciences Li, C. (2021). A control–value theory approach to boredom in English classes among university students in China. *The Modern Language Journal*, *105*(1), 317-334.

- **Background**
- ***Topic of interest:*** There is a growing research interest in a variety of **emotions in foreign and second language (L2) classrooms**, especially since the introduction of positive psychology.
- ***Research gap:*** However, research on the ubiquitous emotional experience of boredom is **scant**.
- ***Research significance:*** Building on its **prevalence and documented deleterious effects**, I argue that research on the antecedents (sources) for the instigation of boredom is needed.
- **Research Objectives and Methods**:
- Based on the control–value theory (CVT) of achievement emotions in educational psychology, this study took **a mixed methods approach** to examine control–value appraisals as antecedents of boredom in English-as-a-foreign-language learning among Chinese university students.
- **Results**
- In line with CVT assumptions, **Pearson correlation analyses and regression analyses** (*N* = 2,002) showed that different control–value appraisals predicted boredom uniquely or interactively.
- **Qualitative data from interviews** with 11 students and 11 English teachers expanded the quantitative results by including more complexities in the associations between control–value appraisals and boredom.
- **Theoretical Contributions**
- These findings provide further support for the CVT and help to elucidate the instigation of boredom in the L2 learning context.
- **Implications**
- Directions for future research and implications for L2 educational practice are discussed.

Article 2: Natural Sciences Tian, Y., Hu, Y., Su, M., Jia, Q., Lian, X., & Jiao, L. (2024). Mitigation Measures Could Aggravate Unbalanced Nitrogen and Phosphorus Emissions from Land-Use Activities. *Environmental Science & Technology*, *58*(10), 4627-4636.

Background: ***Topic of interest, research gap and significance***

Socioeconomic factors and mitigation potentials are **essential drivers** of the dynamics of nutrient emissions, yet these drivers are rarely examined at broad **spatiotemporal scales**.

Research objectives and methods:

Here, we combine **material flow analysis and geospatial analysis** to **examine the past and future changes of nitrogen and phosphorus emissions in Chin**a.

Results:

- Results show that anthropogenic nitrogen and phosphorus emissions increased by 17% and 32% during 2000−2019, respectively.
- Meanwhile, many regions witnessed decreasing nitrogen emissions but rising phosphorus dischargedto waterbody, leading to a 20% decrease in the nitrogen/phosphorus ratio.
- In addition to many prominent factors like fertilizer use, the increasing impervious land area around cities is a notable factor driving the emissions, indicating the urgency to limit building expansion, especially in North China Plain and other less-developed regions.
- Improving land-use efficiency and consuming behaviors could reduce nitrogen and phosphorus emissions by 65−77% in 2030, but the nitrogen/ phosphorus ratio will increase unintendedly due to larger reduction potentials for phosphorus, which may deteriorate the aquatic ecosystem.

Implications

We highlight that nitrogen and phosphorus emissions should be reduced with coordinated but differentiated measures by prioritizing nitrogen reduction through cropland and food-system management.

The main structure of an abstract

- **Research Background**: Briefly states the topic of interest and identifies the research gap in the literature.
- **Research objectives:** Highlights the primary research objectives or research questions of the current study.
- **Methods:** Summarizes the key methods or approaches used to conduct the study.
- **Results:** Presents the main findings in a concise manner.
- **Implications/Contributions:** Highlights the implications of the findings and their contribution to the field in research and/or in practice.

- Part 3: Introduction

The overall structure of an introduction

- Please identify the **overall structure** of the Introduction below.

- Article 1: **Social Sciences (Print)**
- Li, C. (2021). A control–value theory approach to boredom in English classes among university students in China. *The Modern Language Journal*, *105*(1), 317-334.

- Student exploration

RQs

- RQ1. What are the **effects** of appraisals of **control** and **value on** learners' experiences of **boredom** in EFL class?
- RQ2. Does the effect of **value appraisal** outweigh that of **control appraisal** in boredom level in EFL class?

Article 1: Social Sciences Li, C. (2021). A control–value theory approach to boredom in English classes among university students in China. *The Modern Language Journal*, *105*(1), 317-334.

- **Context and general topic: from general to more specific**
- **General:** The past three years has witnessed **a growing interest in emotion research** in second language (L2) learning and teaching (Dewaele & Li, 2020). Increasingly, researchers have begun to realize the inseparability of emotion and cognition (Lantolf& Swain, 2019; Swain, 2013). It has also been widely recognized that emotion plays an equally important role as do cognition and motivation in language learning (Dewaele, 2005).
- **More specific:**
- The recent positive psychology movement in applied linguistics has helped to catalyze an emotional or affective wave or turn (Prior, 2019; White,2018).
- **A variety of emotions** in L2 classrooms have been attended to apart from the extensively studied anxiety, especially positive emotions such as enjoyment (e.g., Dewaele & MacIntyre, 2014; Li, 2020a), joy, love, hope, pride, and interest (e.g., MacIntyre, Dewaele, et al., 2019;MacIntyre & Vincze, 2017), as well as other traditionally neglected negative emotions, such as guilt and shame (e.g., Teimouri, 2018).

- **Research Gap:**
- However, scant attention has been paid to the prevalent emotional experience of boredom in the L2 learning context (Kruk, 2019; Li & Dewaele,2020).

- **Research Rationale/Significance:**
- Drawing on the theories and findings from psychology and educational psychology, we can conclude that **boredom negatively affects people in multiple aspects** including their thoughts, feelings, cognition, motivation, and behaviors (Putwain et al., 2018). Thus, research **on the antecedents of boredom** is much needed and warranted.

Theoretical/empirical foundations

- Boredom, experienced in the educational context, is closely related to learning achievement and could be conceptualized as an achievement emotion (Pekrun, 2006).
- **The control–value theory (CVT)** of achievement emotions posits that control and value appraisals are the two proximal determinants of achievement emotions (Pekrun, 2006; Putwain et al., 2018).
- **Empirical evidence** also supports the major role of control–value appraisals in the arousal of boredom in the general educational context (e.g.,Pekrun et al., 2010) and in mathematics learning context (e.g., Putwain et al., 2018).

Research objectives

- Building on the theoretical assumptions of the CVT and empirical findings in educational psychology relevant to the predictive role of control–value appraisals on achievement emotions (including boredom), the present study sets out to examine **how control–value appraisals predict boredom in an English-as-a-foreign-language (EFL) learning context in China at the tertiary level.**

The main structure of an introduction

- **Background and research topic**: Introduces the topic with essential background information, including brief relevant literature or foundational concepts.
- **Research Problem or Gap**: Clearly identifies the gap in knowledge or specific problem in the literature that the current study is going to address.
- **Research Rationale/Significance:** Clarifies the importance of filling the gap.
- **Theoretical/empirical foundations:**
- **Research Objectives**: States the main objectives of the study, explaining what the research aims to achieve or uncover.
- **Significance and Contribution**: Emphasizes the study's importance, explaining its potential impact and contribution to the field.

- Extended exercises

Abstract 3: Please reorder A-J to form a coherent abstract.

- (A) The present study reports on a bibliometric investigation into China's development of linguistics research from 2003 to 2012.
- (B) However, it is not clear whether China has also become a power in social sciences as it has in natural sciences, and pertinent research is still scarce.
- (C) The bibliometric information of SSCI publications by researchers from Mainland China, Taiwan, Hong Kong, and Macau was retrieved from the Web of Science.
- (D) Meanwhile, Hong Kong was the leading region of linguistics research in China.
- (E) Reasons for China's rapid progress in linguistics research are explained and suggestions for future research are also proposed.
- (F) Indices such as the number of publications, impact factors, publication citations, and publications in high-impact and popular journals were examined.
- (G) China has become second only to America in scientific publications.
- (H) However, it was surpassed from 2011 by Mainland China, which had also made remarkable progress in linguistics research in the decade. Macau had seen its significant improvement while its increase was the least amongst the four regions.
- (I) Results showed that the numbers of publications in linguistics journals from all the four regions had significantly increased in the decade examined.
- (J) Taiwan was ranked second and had achieved the most remarkable progress from 2003 to 2010.

Answer

第二周发布

The original abstract

- China has become second only to America in scientific publications. However, it is not clear whether China has also become a power in social sciences as it has in natural sciences, and pertinent research is still scarce. The present study reports on a bibliometric investigation into China's development of linguistics research from 2003 to 2012. The bibliometric information of SSCI publications by researchers from Mainland China, Taiwan, Hong Kong, and Macau was retrieved from the Web of Science. Indices such as the number of publications, impact factors, publication citations, and publications in high-impact and popular journals were examined. Results showed that the numbers of publications in linguistics journals from all the four regions had significantly increased in the decade examined. Meanwhile, Hong Kong was the leading region of linguistics research in China. Taiwan was ranked second and had achieved the most remarkable progress from 2003 to 2010. However, it was surpassed from 2011 by Mainland China, which had also made remarkable progress in linguistics research in the decade. Macau had seen its significant improvement while its increase was the least amongst the four regions. Reasons for China's rapid progress in linguistics research are explained and suggestions for future research are also proposed.

- Lei, L., & Liao, S. (2017). Publications in linguistics journals from Mainland China, Hong Kong, Taiwan, and Macau (2003–2012): A bibliometric analysis. *Journal of Quantitative Linguistics*, 24(1), 54-64.

Abstract 4: Please reorder A-J to form a coherent abstract.

- **A.** Applying the PDCA scheme to simulated signals and experimental signals, its validity is verified.
- **B.** The scheme consists of four basic steps. Firstly, the physical model with amplitude modulation operator and frequency shift operator is described for the distortion process.
- **C.** Wayside acoustic system plays a crucial role in monitoring and diagnosing the status of train wheel bearings.
- **D.** In this manner, this paper proposes a model-driven Doppler distortion self-tuning method in theory, named as parametric Doppler correction analysis (PDCA).
- **E.** The comparison with the instantaneous frequency ridge extraction approach further indicates the proposed model-driven method can reach a more accurate correction result in a faster and more adaptive process.
- **F.** Then, pseudo Doppler correction (PDC) is presented to solve the frequency distortion of the received signal, where a high energy accumulation for frequency distribution is designed as optimization function. Especially, quasi Newton algorithm L-BFGS is used to realize the adaptive learning for distortion parameters.
- **G.** Secondly, the pseudo transition signal with the characteristics of energy accumulation and no distortion is obtained via a construction of frequency rearrangement operator and amplitude demodulation operator.
- **H.** Finally, through time-domain interpolation resampling (TIR) technique, the corrected signal can be analytically reconstructed with the optimal parameters.
- **I.** However, due to the signal distortion caused by Doppler effect, the diagnosis accuracy will be seriously disturbed.
- **J.** Different from traditional methods, such as instantaneous frequency tracking and Doppler distortion sparse representation, the proposed method aims to abstractly construct a physical model of acoustic signal distortion propagation based on Morse acoustic theory, where the acoustic forward propagation model and reverse reconstruction model are simultaneously built.

Answer

- 第二周发布

Paper source:

Ding, X., Li, Y., Xiao, J., He, Q., Yang, X., & Shao, Y. (2022). Parametric Doppler correction analysis for wayside acoustic bearing fault diagnosis. *Mechanical Systems and Signal Processing, 166*, https://doi.org/10.1016/j.ymssp.2021.108375

Mechanical Systems and Signal Processing 166 (2022) 108375

Contents lists available at ScienceDirect

Mechanical Systems and Signal Processing

journal homepage: www.elsevier.com/locate/ymssp

Parametric Doppler correction analysis for wayside acoustic bearing fault diagnosis

Xiaoxi Ding [a,b,*], Yulan Li [a], Jiawei Xiao [a], Qingbo He [c], Xiaoqing Yang [a], Yimin Shao [b]

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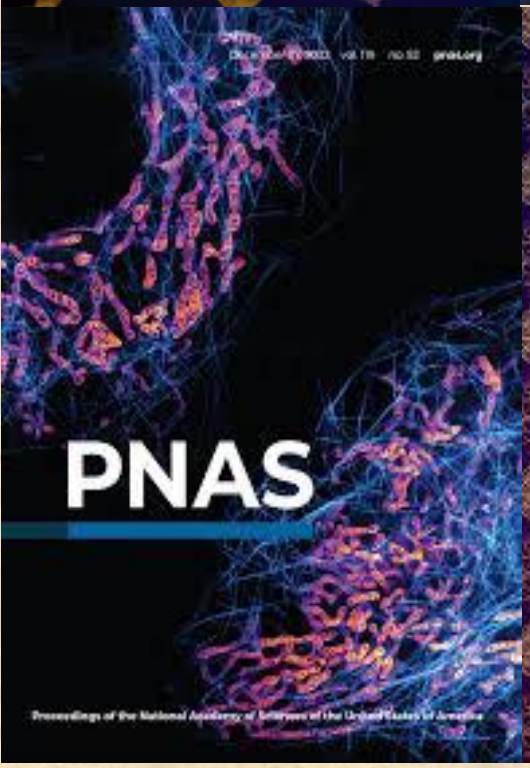
ARTICLE INFO

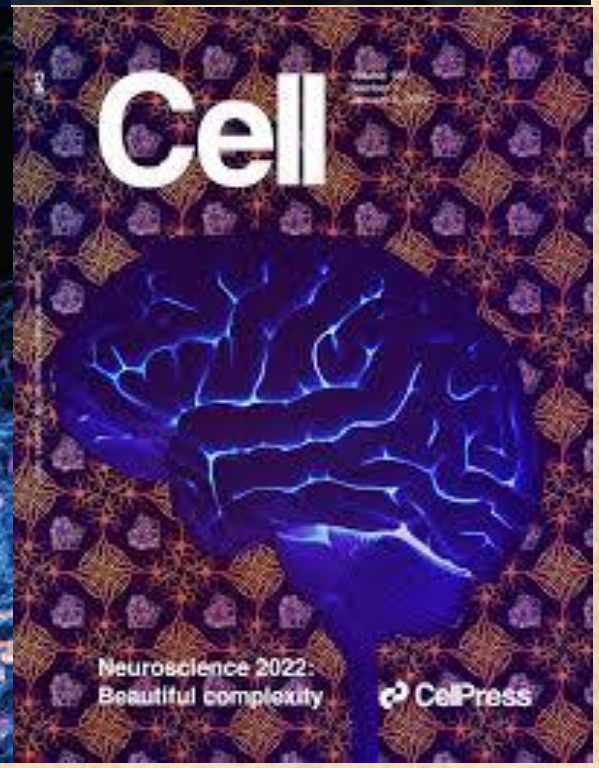
Communicated by Yaguo Lei

Keywords:
Doppler effect
Parametric Doppler correction analysis
Acoustic model
Train bearing
Wayside fault diagnosis

ABSTRACT

Wayside acoustic system plays a crucial role in monitoring and diagnosing the status of train wheel bearings. However, due to the signal distortion caused by Doppler effect, the diagnosis accuracy will be seriously disturbed. In this manner, this paper proposes a model-driven Doppler distortion self-tuning method in theory, named as parametric Doppler correction analysis (PDCA). Different from traditional methods, such as instantaneous frequency tracking and Doppler distortion sparse representation, the proposed method aims to abstractly construct a physical model of acoustic signal distortion propagation based on Morse acoustic theory, where the acoustic forward propagation model and reverse reconstruction model are simultaneously built. The scheme consists of four basic steps. Firstly, the physical model with amplitude modulation operator and frequency shift operator is described for the distortion process. Secondly, the pseudo transition signal with the characteristics of energy accumulation and no distortion is obtained via a construction of frequency rearrangement operator and amplitude demodulation operator. Then, pseudo Doppler correction (PDC) is presented to solve the frequency distortion of the received signal, where a high energy accumulation for frequency distribution is designed as optimization function. Especially, quasi Newton algorithm L-BFGS is used to realize the adaptive learning for distortion parameters. Finally, through time-domain interpolation resampling (TIR) technique, the corrected signal can be analytically reconstructed with the optimal parameters. Applying the PDCA scheme to simulated signals and experimental signals, its validity is verified. The comparison with the instantaneous frequency ridge extraction approach further indicates the proposed model-driven method can reach a more accurate correction result in a faster and adaptive process.





Academic Writing in English

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October 26/27/28 2024