University of Illinois Urbana-Champaign

Proposal For Ph.D. Preliminary Exam

Department of Atmospheric Sciences

Title

Author:
first name LAST NAME

Committee members:
Prof. first name LAST NAME
Prof. first name LAST NAME
Prof. first name LAST NAME
Prof. first name LAST NAME

February 6, 2024

Project summary (1 page limitation)

Write your project summary here.

Contents(1 page limitation)

I Introduction

Introduction should includes general motivation for proposed research.

I.A University

The University of Illinois at Urbana Champaign is a public land-grant research university founded in 1867.

I.B College

The College of Liberal Arts and Sciences (LAS) is the largest college of the University of Illinois Urbana-Champaign.

I.C Department

The Department of Atmospheric Science had its beginnings in 1969 with the arrival of Professor Yoshimitsu Ogura to the University of Illinois campus.

The Doppler on Wheels (DOW) mobile radar (Figure 1) and instrumentation facility has joined the Department of Atmospheric Sciences at the University of Illinois at Urbana-Champaign.

Figure 1: DOW.

There are many research work based on DOW (Wurman et al., 2021; Juliano et al., 2023). Wurman et al. (2021) describes xxxx.

II Objectives/Hypotheses

Objectives should include their relationship to the current state of knowledge and to any relevant preliminary results for the proposed research. Our objective is to investigate xxxxxx.

III Proposed research

Proposed research should include methodology and its relationship to achieving stated objectives and answering proposed hypotheses.

III.A Task 1:xxxxx.

Task 1 prepare to xxxxxx .

Task 1A: xxxxxx. Task 1A focus on xxxxxx.

Task 1B: xxxxxx. Task 1B plans to xxxxxx.

III.B Task 2:xxxxx.

Task 2 prepare to xxxxxx .

Task 2A: xxxxxx. Task 2A focus on xxxxxx.

Task 2B: xxxxxx. Task 2B plans to xxxxxx.

IV Preliminary work

The work we have currently finished is divided into several parts.

IV.A XXXXXX

What we have done is to derive the thermodynamic equation which is shown in equation [1].

$$C_v \frac{\mathrm{d}T}{\mathrm{d}t} + p\frac{\mathrm{d}\alpha}{\mathrm{d}t} = Q, \tag{1}$$

where C_v is xxx, T is xxxx.

We will continue working on xxxx. We will continue working on xxxx. We will continue working on xxxx. We will continue working on xxxx.

We will continue working on xxxx. We will continue working on xxxx. We will continue working on xxxx. We will continue working on xxxx.

We will continue working on xxxx. We will continue working on xxxx. We will continue working on xxxx. We will continue working on xxxx.

IV.B XXXXXX

Section IV.A introduces xxxx, the second work we have don is to derive equation [2].

$$\left.\begin{aligned} fv - \frac{1}{\rho}\frac{\partial p}{\partial x} &= \frac{\mathrm{d}u}{\mathrm{d}t} \\ -fu - \frac{1}{\rho}\frac{\partial p}{\partial y} &= \frac{\mathrm{d}v}{\mathrm{d}t} \\ -g - \frac{1}{\rho}\frac{\partial p}{\partial z} &= \frac{\mathrm{d}w}{\mathrm{d}t}, \end{aligned}\right\} \tag{2}$$

where f is xxxx.

We will continue working on xxxx. We will continue working on xxxx. We will continue working on xxxx. We will continue working on xxxx.

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V Work plan

Work Plan should include timetable and justification for any computer time needed.

	Task 1	**Task 2**	**Task 3**
Summer 2023	Finish Task 1		
Fall 2023	Write paper 1	Start Task 2	
Spring 2024	Finish paper 1	Finish Task 2 Write paper 2	
Summer 2024		Finish paper 2	Start task 3
Fall 2024			Finish Task 3 Write paper 3
Spring 2025			Finish paper 3
Summer & Fall 2025		Write thesis & Finish thesis	

Maximum 15 pages excluding cover page, biography and references

VI Biography

Your Name
Graduate Research Assistant, Department of Atmospheric Science
University of Illinois Urbana Champaign
1301 W Green St, Urbana, IL, 61801
your email@illinois.edu

Education

- Sep. 2022 – present, Ph.D. studet, Atmospheric Science, University of Illinois Urbana-Champaign
- Sep. 2018 – Jun. 2022, B.Sc., Atmospheric Science, University of Illinois Urbana-Champaign

Publications

- xxxx
- xxxx
- xxxx
- xxxx
- xxxx

Presentations

- Talk, xxxx
- Poster, xxxx

VII Reference

Juliano, T. W., Lareau, N., Frediani, M. E., Shamsaei, K., Eghdami, M., Kosiba, K., Wurman, J., DeCastro, A., Kosović, B., and Ebrahimian, H. (2023). Toward a better understanding of wildfire behavior in the wildland-urban interface: A case study of the 2021 marshall fire. *Geophysical Research Letters*, 50(10):e2022GL101557.

Wurman, J., Kosiba, K., Pereira, B., Robinson, P., Frambach, A., Gilliland, A., White, T., Aikins, J., Trapp, R. J., Nesbitt, S., et al. (2021). The flexible array of radars and mesonets (farm). *Bulletin of the American Meteorological Society*, 102(8):E1499–E1525.