Department of *Your Department*
Imperial College London

Thesis Title

Author

Today's date

Submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy in the Department of *Your Department.*

Statement of Originality

Declaration

Author

Date

Copyright Declaration

Abstract

Write your abstract no more than 300 words.

Acknowledgements

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Nomenclature

Acronyms

MSE Mean Squared Error

Functions/operators

$\triangle$ Vector Laplacian operator

$||*||_2^2$ ℓ_2 norm

Matrix/tensors

$\boldsymbol{\Phi}$ POD modes

$\boldsymbol{U}$ Dataset containing only the velocity

Non-dimensional group

Re Reynolds Number

St Strouhal number

Symbols

$\boldsymbol{u}$ Velocity (local, instantaneous)

$\boldsymbol{v}$ Vorticity (local, instantaneous)

t Time

x Spatial dimension

Chapter 1

Introduction

Let me introduce you to defining your own macros (Section 1.2) and customizing the template using preamble (Section 1.3).

1.1 Basic commands

Cite things like Adrian (1979) and (Agostini 2020).

- figure
- table
- algorithm
- math
- code

1.2 Defining macros

Define all new commands that you plan to use repeatedly in *mymacros.sty*.

At the top of *main.tex*, we import our command file by using the line `\usepackage{mymacros}`. When writing equations, we can use the commands we defined in *mymacros.sty*.

$$MSE = \|\boldsymbol{A}\|_2^2 \tag{1.1}$$

$$Re = 1/\nu$$

We can use our other defined commands as well, such as `\comment` to make text red.

1.3 Changing layouts and working with preamble

Customizable features

- Page margin
- import packages
- font and fontsize
- bibliography style, and the page format
- title page style

Bibliography

Adrian, R. J., 1979. 'Conditional eddies in isotropic turbulence', *The Physics of Fluids* **22**(11), 2065–2070.

Agostini, L., 2020. 'Exploration and prediction of fluid dynamical systems using auto-encoder technology', *Physics of Fluids* **32**(6).

Appendices

Appendix A

Derivations

A.1 Algorithm A

Appendix B

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