



Liverpool John Moores University

# Thesis Title

by

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A thesis submitted in partial fulfillment for the  
degree of Doctor of Philosophy

in the  
Faculty of Science  
Astrophysics Research Institute

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# Declaration

The work presented in this thesis was carried out at the Astrophysics Research Institute, Liverpool John Moores University. Unless otherwise stated, it is the original work of the author.

While registered as a candidate for the degree of Doctor of Philosophy, for which submission is now made, the author has not been registered as a candidate for any other award. This thesis has not been submitted in whole, or in part, for any other degree.

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FEBRUARY 2014

# Abstract

# Acknowledgements

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# Declaration of Authorship

I, AUTHOR NAME, declare that this thesis titled, 'THESIS TITLE' and the work presented in it are my own. I confirm that:

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- Where I have consulted the published work of others, this is always clearly attributed.
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- I have acknowledged all main sources of help.
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*“Write a funny quote here.”*

If the quote is taken from someone, their name goes here

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# *Abstract*

Faculty of Science

Astrophysics Research Institute

Doctor of Philosophy

by Martyn Bristow

The Thesis Abstract is written here (and usually kept to just this page). The page is kept centered vertically so can expand into the blank space above the title too. . .

# *Acknowledgements*

The acknowledgements and the people to thank go here, don't forget to include your project advisor. . . With thanks to my friends, my family, my cats and Chris



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# List of Figures

# List of Tables

# Abbreviations

**LAH** List Abbreviations **Here**

# Physical Constants

Speed of Light  $c = 2.997\,924\,58 \times 10^8 \text{ ms}^{-1}$  (exact)

# Symbols

$a$	distance	m
$P$	power	W ( $\text{Js}^{-1}$ )
$\omega$	angular frequency	$\text{rads}^{-1}$

*To my friends ...*

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