RUOYAN WANG

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RESEARCH INTERESTS

My interests cover various aspects of planets, including planetary atmospheres and interiors. I focus on studying planets from an astrophysical perspective. Currently I am particularly interested in studying the upper atmospheres of planets from their aurorae.

Dynamics of Jupiter's Magnetosphere and Aurora
We are entering a new era of understanding of giant planet environments thanks to the Juno mission at Jupiter, and concurrent Hubble Space Telescope images of Jupiter's UV aurora. The combination of these measurements allow us to probe how the vast magnetosphere responds to changes in the external (e.g. solar wind) and internal (e.g. the volcanic moon Io) conditions. We will exploit the available data to investigate the mechanisms and timescales of Jupiter's magnetospheric dynamics.

EDUCATION

MSc. Astronomy - Leiden University 2018 - Present
Master thesis: Cataloging and Visualizing Cradles of Planet Formation
Advisor: Matthew Kenworthy
First year thesis: Detection of Transiting Exoplanets on the Bright End with MASCARA/TESS
Advisor: Ignas Snellen

BSc. Physics (Astrophysics) - University of California, Santa Cruz 2013 - 2017
Senior thesis: Atmospheric Models of Brown Dwarfs
Advisor: Jonathan Fortney

ACADEMIC EXPERIENCE

Undergraduate Research Assistant 2016 - 2018
University of California, Santa Cruz

•Modeled brown dwarf atmospheres spanning a wide range of atmospheric metallicity, C/O ratios, and cloud properties, encompassing atmospheres of effective temperatures and gravities.
•Analyzed the expected temperature-pressure profiles and emergent spectra from an atmosphere in radiative-convective equilibrium.

MSI Tutor for PHYS 6C: Introductory Physics III Fall 2016
University of California, Santa Cruz

•Reviewed and answered questions regarding to the class materials.
•Taught sessions handling the difficult conceptual and practical problems covered in assignments.
•Helped to determine the pace of the class suitable for the majority of students.

PUBLICATIONS

R. Wang, C. Ginski, M. A. Kenworthy: "A simplified 3d Reconstruction of Circumstellar Disks from 2d Data.", A&A, in prep

PRESENTATIONS

Annual Physical and Biological Science Summer Research Symposium August 2016, August 2017
University of California, Santa Cruz

231th AAS Meeting January 2018
Washington, D.C., USA

INTERNSHIP/INDUSTRIAL TRAINING

China National Petroleum Corporation (CNPC) June 2014 - August 2014
Xining, China

•Learned about the features of various equipments relating to the entire automation process of oil refinary.
•Involved in a geophysical survey for petroleum and natural gas exploitation and extraction in plateau involving deep well cememting under high pressure and temperature.
•Processed and analyzed data acquired from artificial seismic waves for oil prospecting in the Qaidam Basin.

OUTREACH SERVICE

Gapper International Volunteerism August 2015
Galle, Sri Lanka

•Learned about the ecosystem of sea turtles and the balance between wildlives and human activities.
•Helped designing an active sonar for a turtle hatchery to create a comfortable underwater environment during mating seasons.

SCHOLARSHIP/HONOR/AWARD

Astronomy Master Scholarship - Leiden University 2018, 2019
Granted a tuition waiver till home fee for outstanding academic merit as a non EU/EEA international student.

Undergraduate Dean's Honor - University of California, Santa Cruz 2013, 2015
"Students qualify for the Dean's Honors List when they have completed a minimum of 15 units of which 10 are units for letter grade with a grade point average in the range required for University Honors at graduation for the current academic year."

Regents Scholarship - University of California, Santa Cruz 2013 - 2017
"The Regents Scholarship carries the highest honor awarded by the University of California, Santa Cruz to entering undergraduates."