RUOYAN WANG

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RESEARCH INTERESTS

My interests include the interiors and atmospheres of planets in and out of the solar system. I intent to understand planets as classes of astrophysical objects.

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

•Modeling brown dwarf atmospheres spanning a wide range of atmospheric metallicity, C/O ratios, and cloud properties, encompassing atmospheres of effective temperatures and gravities.
•Analyzing 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

•PHYS 6C is a semi-mandatory undergraduate course in UC Santa Cruz's Physics Department, providing a wide overview to classical electromagnetism. MSI tutors are responsible for helping students to acquire effective learning strategies, working with peers to understand difficult course material, and building relationships with their classmates.

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 AND AWARD

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

Undergraduate Dean's Honor 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.