



Research Direction: PLANETARY INTERIOR

Field: Modelling Planetary Interiors & Subsurface Ice Stability

SHORT BIO

RESEARCH ACTIVITY

76 publications, 65 in peer-reviewed journals.
1586 citations, H-index = 24 (Google Scholar).
The full list can be found in
<https://scholar.google.com/citations?user=S70GNuoAAA&hl=en>

RESEARCH INTERESTS

- (1) Internal structure and interior composition of giant planets in our solar system and beyond;
- (2) Ab initio calculations for planetary matter;
- (3) Subsurface ice stability on Mars and icy moons;
- (4) Decay properties of unstable nuclei and their astrophysical applications.

AWARDS & HONORS

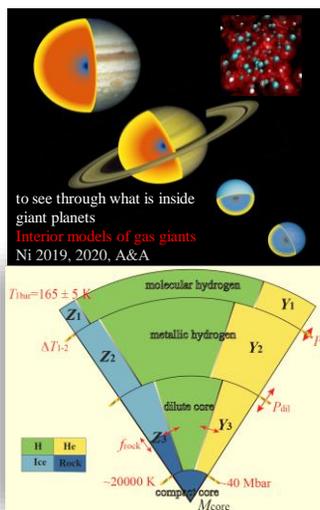
Excellent Young Scholars Fund of the Natural Science Foundation of China (NSFC, 2020)
Top Review Award of *Chinese Physics C* (2017-2020)
BOC Research Excellence Award, MUST (2019)
Outstanding Postdoc of Nanjing University, (2015)
Outstanding Report Award for Youth, the 15th National conference on Nuclear Structure (2014)

Asso. Prof.

Dongdong Ni

PhD: Theoretical Physics (2012) – Nanjing University

Degree: Physics (2008) – Nanjing University



Blocky ice



Mixture of ice and lunar regolith



Hydrated minerals



Physical or chemical methods



Water/Ice/Hydrate Exploration
Song, Zhang, Ni, et al. (2021)
Applied Energy

KEY PUBLICATIONS (selected)

- Y. Zhao, **D. Ni**. Machine learning techniques in studies of the interior structure of rocky exoplanets. *A&A* 650, A177 (2021)
- H.Q. Song, J. Zhang, **D. Ni**, et al. Investigation on in-situ water ice recovery considering energy efficiency at the lunar south pole. *Applied Energy* 298 (2021) 117136
- D. Ni**. Understanding Saturn's interior from the Cassini Grand Finale gravity measurements. *A&A* 639, A10 (2020).
- D. Ni**. Understanding Jupiter's deep interior: the effect of a dilute core. *A&A* 632, A76 (2019).
- D. Ni**. Empirical models of Jupiter's interior from Juno data: Moment of inertia and tidal Love number k₂. *A&A* 613, A32 (2018).

PROFESSIONAL EXPERIENCE

- 2020 – Present** – Macau University of Science and Technology, Macao (China) – Asso. Prof.
- 2017 Jan–Apr** – Department of Earth, Planetary, and Space Sciences, UCLA – Visiting Scholar
- 2015 – 2020** – Macau University of Science and Technology, Macao (China) – Asst. Prof.
- 2013 – 2015** – School of Electronic Science and Engineering, Nanjing University (China) – Post Doctoral

GRANTS

- NSFC** – 2021-2023 – PI: National Science Fund for Distinguished Young Scholars (港澳優青項目)
- CNSA** – 2020 – 2022 – Co-PI: Research on Key Scientific Objectives of Giant Planetary Systems
- FDTC** – 2020-2023 – PI: Nuclear Decay and Planetary Physics
- FDTC** – 2019-2022 – PI: Internal Structure, Interior Composition, and Zonal Winds of Gas Giant Planets

Office: A505,
E-mail: ddni@must.edu.mo

