教學人員簡介

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學歷

博士，理論物理專業，南京大學，2012
學士，粒子物理與原子核子物理，南京大學，2008

教學領域

物理I
物理II
現代物理學

研究領域

類木行星的內部結構及演化
火星地下水冰分佈與穩定性
系外岩石行星內部結構
核天體過程中原子核衰變性質

工作經歷

2020年9月至今，澳門科技大學月球與行星科學國家重點實驗室，副教授
2015年7月至2020年8月，澳門科技大學太空科學研究所，助理教授
2017年1月至2017年3月，加州大學洛杉磯分校地球、行星、空間科學系，訪問學者
2013年1月至2015年6月，南京大學電子科學與工程學院，博士後

研究項目

國家自然科學基金—優秀青年科學基金（港澳），2020
巨行星系統的關鍵科學目標研究，國防科工局民用航天"十三五"預先研究項目，2020-2022（子課題負責人）
核衰變與行星物理，澳門科技發展基金，2020-2023，（負責人）
氣態巨行星內部結構、物質成分、以及表面緯向風分佈，澳門科技發展基金，2019-2022，（負責人）
奇特核衰變性質的理論研究，中國博士後基金面上一等資助，2013-2015，（負責人）
放射性衰變中原子核形變效應的理論研究，中國博士後基金特別資助，2014-2015（負責人）

專業資格認證及獎項

中銀學術研究優秀獎，澳門科技大學，2019

物理學期刊《中國物理C》最佳審稿人之一，中國，2017, 2018, 2019
2014年度南京大學優秀博士後研究人員，南京大學，中國，2015
優秀青年報告獎，第十五屆全國核子物理大會，中國，2014
2013年第一批省資助博士後研究人員，南京，中國，2013
2012年度研究生（博士研究生）國家獎學金，中國，2012
第九屆南京市優秀自然科學論文獎，南京，中國，2011

學術機構及社會任職

學術期刊Journal of Physics G: Nuclear and Particle Physics, Chinese Physics C, European Physical Journal A, Physica Scripta, Communications in Theoretical Physics審稿人

中國物理學會，核子物理分會成員

江蘇省物理學會成員

學術成果

期刊文章（精選，SCI論文61篇，被引頻次超過1300次，第一作者SCI論文44篇）：

39. D. D. Ni. "Understanding Saturn’s interior from the Cassini Grand Finale gravity measurements". Astronomy&Astrophysics 639, A10 (2020).

38. D. D. Ni. "Signature of helium rain and dilute cores in Jupiter's interior from empirical equations of state". Earth and Planetary Physics 4(2), 1-9 (2020).

37. D. D. Ni and Z. Z. Ren. "Effects of nuclear collective vibrations on the alpha-decay fine structure of vibrational nuclei with A~220". Physical Review C 101, 044308 (2020).

36. D. D. Ni. "Understanding Jupiter’s deep interior: the effect of a dilute core". Astronomy&Astrophysics 632, A76 (2019).

35. Y. P. Shen, B. Guo, T. L. Ma, D.Y.Pang, D. D. Ni, et al. "First experimental constraint of the spectroscopic amplitudes for the alpha-cluster in the 11B ground state". Physics Letters B 797, 134820 (2019).

34. D. D. Ni. "Empirical models of Jupiter’s interior from Juno data: Moment of inertia and tidal Love number k2". Astronomy&Astrophysics 613, A32 (2018).

33. D. S. Delion, Z. Z. Ren, A. Dumitrescu, and D. D. Ni. “Coupled channels description of the alpha-decay fine structure”. Journal Physics G: Nuclear and Particle Physics (Topical Review) 45, 053001 (2018).

32. D. D. Ni and Z. Z. Ren. “Competition between alpha and beta decays for heavy deformed neutron-deficient Pa, U, Np, and Pu isotopes”. Physical Review C 95, 014323 (2017).

31. D. D. Ni and Z. Z. Ren. “Theoretical research on proton halos in exotic nuclei”. Chinese Physics C 41, 114104 (2017).

30. D. D. Ni and Z. Z. Ren. "Alpha-decay half-lives of odd-mass nuclei with differences between neutron and proton distributions". Physical Review C 93, 054318 (2016).

29. D. D. Ni and Z. Z. Ren. "Beta+/EC decay rates of deformed neutron-deficient nuclei in the deformed QRPA with realistic interactions". Physics Letters B 744, 22 (2015).

28. D. D. Ni and Z. Z. Ren. "Systematic research on alpha-decay rates of spherical and deformed nuclei". Annals of Physics 358, 108 (2015).

27. D. D. Ni and Z. Z. Ren. "Beta-decay rates of odd-mass neutron-rich isotopes in the deformed quasiparticle random-phase approximation with realistic interactions". Physical Review C 92, 034324 (2015).

26. D. D. Ni and Z. Z. Ren. "Effects of differences between neutron and proton density distributions on alpha-decay half-lives". Physical Review C 92, 054322 (2015).

25. D. D. Ni and Z. Z. Ren. "Beta-decay rates of neutron-rich Zr and Mo isotopes in the deformed quasiparticle random-phase approximation with realistic interactions". Phyical Review C 89, 064320 (2014).

24. D. D. Ni and Z. Z. Ren. "Beta-decay rates of r-process waiting-point nuclei in the extended quasiparticle random-phase approximation". Journal of Physics G: Nuclear and Particle Physics 41, 025107 (2014).

23. D. D. Ni and Z. Z. Ren. "Beta-decay rates of neutron-rich Kr and Sr isotopes in the deformed QRPA with realistic interactions". Journal of Physics G: Nuclear and Particle Physics 41, 125102 (2014).

22. D. D. Ni and Z. Z. Ren. "Coupled-channel representation to describe fine structure in the alpha decay of odd-mass Bk isotopes". Physical Review C 88, 014325 (2013).

21. D. D. Ni and Z. Z. Ren. "Theoretical description of fine structure in the alpha decay of heavy odd-odd nuclei". Physical Review C 87, 027602 (2013).

20. D. D. Ni, Z. Z. Ren, T. K. Dong, and Y. B. Qian. "Nuclear charge radii of heavy and superheavy nuclei from the experimental alpha-decay energies and half-lives". Physical Review C 87, 024310 (2013).

19. D. D. Ni and Z. Z. Ren. "Systematic calculation of fine structure in the alpha decay of heavy odd-mass nuclei". Physical Review C 86, 054608 (2012).

18. D. D. Ni and Z. Z. Ren. "Calculations of beta-decay half-lives of neutron-rich nuclei". Journal of Physics G: Nuclear and Particle Physics 39, 125105 (2012).

17. D. D. Ni and Z. Z. Ren. "Alpha-decay studies of Rf, Sg, and Hs isotopes within the multi-channel cluster model". Progress in Theoretical Physics Supplement 196, 445 (2012).

16. D. D. Ni and Z. Z. Ren. "Binding energies, alpha-decay energies, and alpha-decay half-lives for heavy and superheavy nuclei". Nuclear Physics A 893, 13 (2012).

15. D. D. Ni and Z. Z. Ren. "Coupled-channels study of fine structure in the alpha decay of well deformed nuclei". Physical Review C 83, 067302 (2011).

14.. D. D. Ni and Z. Z. Ren. "Alpha-cluster structure above doubly closed shells in a generalized density-dependent cluster model". Physical Review C 83, 014310 (2011).

13. D. D. Ni and Z. Ren. "Coupled-channels study of fine structure in the alpha decay of platinum isotopes". Physical Review C 84, 037301 (2011).

12. D. D. Ni and Z. Z. Ren. "Half-lives and cluster preformation factors for various cluster emissions in trans-lead nuclei". Physical Review C 82, 024311 (2010).

11. D. D. Ni and Z. Z. Ren. "New approach for alpha-decay calculations of deformed nuclei". Physical Review C 81, 064318 (2010).

10. D. D. Ni and Z. Z. Ren. "Systematic calculation of alpha decay within a generalized density-dependent cluster model". Physical Review C 81, 024315 (2010).

9. D. D. Ni and Z. Z. Ren. "Calculations of new alpha-decay data within the generalized density-dependent cluster model". Journal of Physics G: Nuclear and Particle Physics 37, 105107 (2010).

8. D. D. Ni and Z. Z. Ren. "Alpha-decay calculations of ground and isomeric states within a generalized density-dependent cluster model". Journal of Physics G: Nuclear and Particle Physics 37, 035104 (2010).

7. D. D. Ni and Z. Z. Ren. "Alpha-decay calculations of light mass nuclei above doubly magic 100Sn." Nuclear Physics A 834, 370c (2010).

6. D. D. Ni and Z. Z. Ren. "Microscopic calculation of alpha-decay half-lives with a deformed potential". Physical Review C 80, 051303(R) (2009).

5. D. D. Ni and Z. Z. Ren. "Exotic alpha decays around the N=126 magic shell". Physical Review C 80, 014314 (2009).

4. D. D. Ni and Z. Z. Ren. "Alpha-decay calculations of medium mass nuclei within generalized density-dependent cluster model". Nuclear Physics A 828, 348 (2009).

3. D. D. Ni and Z. Z. Ren."Microscopic calculation of alpha-decay half-lives within the cluster model". Nuclear Physics A 825, 145 (2009).

2. D. D. Ni, Z. Z. Ren, T. K. Dong, and C. Xu. "Unified formula of half-lives for alpha decay and cluster radioactivity". Physical Review C 78, 044310 (2008).

1. D. D. Ni and Z. Z. Ren."Bedford's law and half-lives of unstable nuclei". European Physical Journal A 38, 251 (2008).

專著章節:

自然科學大辭典系列《物理學大辭典》，原子核子物理（章）:原子核衰變（節）

會議論文（精選）：

6. D. D. Ni and Z. Z. Ren. "Beta-decay half-lives including first-forbidden contributions for neutron-rich Zn isotopes in the extended QRPA with neutron-proton pairing". Journal of Physics: Conference Series 569, 012044 (2014). 3rd International Workshop on "State of the Art in Nuclear Cluster Physics", 26-30 May 2014, Yokohama, Japan.

5. D. D. Ni and Z. Z. Ren. "Comparison of the coupled-channel calculation with the WKB method for alpha-decay fine structure". AIP Conference Proceedings 1533, 109 (2013). 8TH CHINA-JAPAN JOINT NUCLEAR PHYSICS SYMPOSIUM (CJJNPS2012), 15-19 October 2012, Beijing, China.

4. D. D. Ni and Z. Z. Ren. "Systematics of fine structure in the alpha decay of deformed even-even nuclei". Journal of Physics: Conference Series 413, 012015 (2013). International Summer School for Advanced Studies 'Dynamics of open nuclear systems' (PREDEAL12), 9-20 July 2012, Predeal, Romania.

3. D. D. Ni and Z. Z. Ren. "Coupled-channels study of fine structure in the alpha decay of 233,235U". Journal of Physics: Conference Series 420, 012006 (2013). 11th International Conference on Nucleus-Nucleus Collisions (NN2012), 27 May to 1 June 2012, San Antonio, Texas, USA.

2. D. D. Ni and Z. Z. Ren. "Systematic calculation of fine structure in the alpha decay of deformed nuclei". Journal of Physics: Conference Series 381, 012055 (2012). Rutherford Centennial Conference on Nuclear Physics, 8-12 Aug 2011, Manchester, England, United Kingdom.

1. D. D. Ni and Z. Z. Ren. "Alpha-decay half-lives of superheavy nuclei around the N=152 shell". International workshop “Hadron-Nuclear Physics 09” held at Osaka, November 16-19, 2009.