



(/)

中山大學中法核工程与技术学院

Institut franco-chinois de l'énergie nucléaire université Sun Yat-sen

- 学院概况 (/p/236) 教学教务 (/column/3) 科学研究 (/column/4) 招生就业 (/column/5)
党建工会 (/column/6) 学生工作 (/column/7) 实践教学 (/column/8) 国际合作 (/column/43)
校友与基金 (/column/44) 师资队伍 (/column/2)

您所在的位置：中山大学中法核工程学院 (/) >> 师资队伍 (/column/2) >> 专业教师 (/column/11) >> 副教授

(/column/82/news) >> 正文

祝龙

祝龙，博士，副教授，硕士生导师

Email: zhulong@mail.sysu.edu.cn (<mailto:zhulong@mail.sysu.edu.cn>)

ORCID iDs: <https://orcid.org/0000-0002-5294-3823> (<https://orcid.org/0000-0002-5294-3823>)



个人简介

祝龙，现任中山大学中法核工程与技术学院预科阶段教师，副教授，硕士生导师，中国核学会射线束技术分会理事。2015年在北京师范大学获得博士学位。主要研究领域为重离子核反应及新核素产生。主要方向有重离子碰撞中多自由度平衡机制、超重核合成机制、多核子转移机制、重离子碰撞中核物质相变、原子核物态方程。在《Physics Letters B》，《Physical Review C》等核物理顶级期刊发表SCI论文近50篇，包含第一作者或通讯作者论文23篇。总引用650次。获得2018年度英国物理学会中国区高引论文奖。担任《Physical Review C》，《Chinese

Physics C》、《European Physical Journal Plus》等期刊审稿人。担任国家自然科学基金通讯评审专家。主持国家自然科学基金2项，主持广东省自然科学基金1项，参与多项国家自然科学基金项目。培养硕士生1名，本科毕业论文12名。

主持的科研项目

1. 国家自然科学基金-面上项目, 12075327, 多核子转移反应产生丰中子超重核的理论研究, 2021/01-2024/12, 主持
2. 国家自然科学基金-青年科学基金项目, 11605296, 超重核合成和利用大质量转移反应产生丰中子重核的理论研究, 2017/01-2019/12, 主持
3. 广东省自然科学基金, 2016A030310208, 利用放射性束流合成超重核的可行性及产生截面的理论研究, 2016/06-2019/06, 主持

主要期刊论文(*代表通讯作者)

- (1) Long Zhu, Shell inhibition on production of $N = 126$ isotones in multinucleon transfer reactions, Physics Letters B, 2021, 816: 136226.
- (2) Long Zhu, Cheng Li, Chen-Chen Guo, Jun Su, Pei-Wei Wen, Gen Zhang, Feng-Shou Zhang*, Theoretical progress on production of isotopes in the multinucleon transfer process, International Journal of Modern Physics E, 2020, 29: 2030004 (Review)
- (3) Long Zhu, Selection of projectiles for producing trans-uranium nuclei in transfer reactions within the improved dinuclear system model, J. Phys. G: Nucl. Part. Phys. 47 (2020) 065107
- (4) Long Zhu, Possibilities of producing superheavy nuclei in multinucleon transfer reactions based on radioactive targets, Chinese Physics C, 2019, 43: 12410
- (5) Long Zhu*, Cheng Li, Jun Su, Chen-Chen Guo, Wei Hua, Advantages of the multinucleon transfer reactions based on ^{238}U target for producing neutron-rich isotopes around $N=126$, Physics Letters B, 2019, 791: 20-25
- (6) Long Zhu, Theoretical study on production of exotic nuclei near the neutron-drip line in multinucleon transfer reactions, Journal of Physics G: Nuclear and Particle Physics, 2019, 46: 065102
- (7) Long Zhu*, Pei-Wei Wen, Cheng-Jian Lin, Xiao-Jun Bao, Jun Su, Cheng Li, and Chen-Chen Guo, Shell effects in a multinucleon transfer process, Physical Review C, 2018, 97: 044614
- (8) Zhi-Han Wu, Long Zhu*, Fan Li, Xiao-Bin Yu, Jun Su, and Chen-Chen Guo, Synthesis of neutron-rich superheavy nuclei with radioactive beams within the dinuclear system model, Physical Review C, 2018, 97: 064609
- (9) Fan Li, Long Zhu*, Zhi-Han Wu, Xiao-Bin Yu, Jun Su, and Chen-Chen Guo, Predictions for the synthesis of superheavy elements $Z = 119$ and 120, Physical Review C, 2018, 98: 014618

- (10) Long Zhu*, Jun Su, Pei-Wei Wen, Chen-Chen Guo, and Cheng Li, Multinucleon transfer process in the reaction $^{160}\text{Gd} + ^{186}\text{W}$, Physical Review C, 2018, 98: 034609
- (11) Xiao-Bin Yu, Long Zhu*, Zhi-Han Wu, Fan Li, Jun Su, Chen-Chen Guo, Predictions for production of superheavy nuclei with $Z = 105\text{--}112$ in hot fusion reactions, Nuclear Science and Techniques, 2018, 29: 154
- (12) Long Zhu*, Jun Su, Wen-Jie Xie, and Feng-Shou Zhang, Theoretical study on production of heavy neutron-rich isotopes around $N=126$ shell closure in radioactive beam induced transfer reactions, Physics Letters B, 2017, 767: 437
- (13) Long Zhu*, Feng-Shou Zhang, Pei-Wei Wen, Jun Su, and Wen-Jie Xie, Production of neutron-rich nuclei with $Z = 60\text{--}73$ in reactions induced by Xe isotopes, Physical Review C, 2017, 96: 024606
- (14) Long Zhu*, Jun Su , and Pei-Wei Wen, Optimal incident energies for production of neutron-deficient actinide nuclei in the reaction $^{58}\text{Ni} + ^{238}\text{U}$, Physical Review C, 2017, 95: 044608
- (15) Long Zhu*, Jun Su, and Feng-Shou Zhang, Theoretical predictions on production of neutron-deficient nuclei with $Z > 93$ in multinucleon transfer reactions, Nuclear Physics A, 2017, 964: 93-99
- (16) Long Zhu, Theoretical study on production cross sections of exotic actinide nuclei in multinucleon transfer reactions, Chinese Physics C, 2017, 41: 124102
- (17) Long Zhu*, Jun Su, Wen-Jie Xie, and Feng-Shou Zhang, Production of neutron-rich transcalifornium nuclei in ^{238}U -induced transfer reactions, Physical Review C, 2016, 94: 054606
- (18) Long Zhu*, Jun Su, and Feng-Shou Zhang, Influence of the neutron numbers of projectile and target on the evaporation residue cross sections in hot fusion reactions, Physical Review C, 2016, 93: 064610
- (19) Long Zhu*, Jun Su, Ching-Yuan Huang, and Feng-Shou Zhang, Effects of entrance channel on fusion probability in hot fusion reactions, Chinese Physics C, 2016, 40: 124105
- (20) Long Zhu, Zhao-Qing Feng, and Feng-Shou Zhang*, Production of heavy neutron-rich nuclei in transfer reactions within the dinuclear system model, Journal of Physics G: Nuclear and Particle Physics, 2015, 42: 085102
- (21) Long Zhu, Zhao-Qing Feng, Cheng Li, and Feng-Shou Zhang*, Orientation effects on evaporation residue cross sections in ^{48}Ca -induced hot fusion reactions, Physical Review C, 2014, 90: 014612
- (22) Long Zhu, Wen-Jie Xie, and Feng-Shou Zhang*, Production cross sections of superheavy elements $Z=119$ and 120 in hot fusion reactions, Physical Review C, 2014, 89: 024615
- (23) Long Zhu, Jun Su, Wen-Jie Xie, and Feng-Shou Zhang*, Study of the dynamicalpotential barriers in heavy ion collisions, Nuclear Physics A, 2013, 915: 90-105
- (24) 祝龙, 苏军, 蔡创广, 樊向瑜, 一种用于中子活化实验的中子源屏蔽体, 发明专利, 申请日: 2017. 11. 19, 专利号: 201711152104.4

- (25) 祝龙, 苏军, 谢文杰, 郭琛琛, 张东红, 张丰收, 原子核物理评论, 2014, 31: 253
- (26) Jun Su*, Long Zhu, et al., Correlation between symmetry energy and effective k-mass splitting with an improved isospin- and momentum-dependent interaction. Physical Review C, 2016, 94: 034619
- (27) Jun Su*, Long Zhu, et al., Effects of symmetry energy and effective k-mass splitting on central ^{96}Ru (^{96}Zr) + ^{96}Zr (^{96}Ru) collisions at 50 to 400 MeV/nucleon. Physical Review C, 2017, 96: 024601
- (28) Jun Su*, Long Zhu, Chen-Chen Guo, Fusion-evaporation competed against fusion-fragmentation and its isospin dependence, Physics Letters B, 2018, 782: 682-687
- (29) Jun Su*, Long Zhu, Chen-Chen Guo, Influence of the nuclear level density on the odd-even staggering in ^{56}Fe + p spallation at energies from 300 to 1500 MeV/nucleon, Physical Review C, 2018, 97: 054604
- (30) Jun Su*, Long Zhu, Chen-Chen Guo, Isoscalar giant monopole resonance within the Bohr-Mottelson model, Physical Review C, 2018, 98: 024315
- (31) Jun Su, Long Zhu, Wen-Jie Xie, and Feng-Shou Zhang*, Nuclear temperatures from kinetic characteristics. Physical Review C, 2012, 85: 017604
- (32) Pei-Wei Wen, Cheng Li, Long Zhu, et al., Mechanism of multinucleon transfer reaction based on the GRAZING model and DNS model. Journal of Physics G: Nuclear and Particle Physics, 2017, 44: 115101
- (33) Cheng Li, Fan Zhang, JingJing Li, Long Zhu, et al., Multinucleon transfer in the ^{136}Xe + ^{208}Pb reaction. Physical Review C, 2016, 93: 014618
- (34) Fan Zhang, Cheng Li, Long Zhu, Hang Liu, and Feng-Shou Zhang*, Effect of fragment emission time on the temperature of momentum quadrupole fluctuations. Physical Review C, 2015, 91: 034617
- (35) Wen-Jie Xie, Jun Su, Long Zhu, and Feng-Shou Zhang*, Neutron-proton effective mass splitting in a Boltzmann-Langevin approach. Physical Review C, 2013, 88: 061601(R)
- (36) Wen-Jie Xie, Jun Su, Long Zhu, and Feng-Shou Zhang*, Symmetry energy and pion production in the Boltzmann-Langevin approach. Physics Letters B, 2013, 718, 1510-1514



版权：中山大学 中法核工程与技术学院