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Education

- ✓ B.Sc, Nuclear Physics, Tabriz University - 2005
- ✓ MS, Nuclear Physics, Shiraz University - 2007
- ✓ PhD, Nuclear Physics, University of Mazandaran - 2014

Courses

- | | |
|---------------------------------|---|
| 1. Physics 1 | 2. Computational Physics |
| 3. Seminar | 4. Scatering and Reactions in Nuclear Physics |
| 5. Mathematical Physics1 | 6. Physics 2 |
| 7. Advanced Nuclear Physics | 8. Special Topics2 |
| 9. Nuclear and Particle Physics | 10. Special Topics 1 |

Master Thesis

1. Study of the fusion reactions of heavy ions with even-even deformed targets by using double-folding potential

مصطفی رضایی کهنه, [Seyed Alireza Alavi, Vahid Dehghani]

نیمسال اول سال تحصیلی 96-97

Journals Papers

2022

1. Cluster decay half-lives using asymmetry dependent densities

Vahid Dehghani, Seyed Alireza Alavi, R. Razavi, A. Soylu, F. Koyuncu

Chinese Physics C Volume: (46) 044104-1 - 044104-10

2. Calculations on the proton decay with modified preformation probability

A. Soylu, F. koyuncu, Seyed Alireza Alavi, Vahid Dehghani

INTERNATIONAL JOURNAL OF MODERN PHYSICS E Volume: (31) 2250062-1 - 2250062-10

3. Alpha decay half-lives of even-even nuclei using alpha-folding interaction

Fariba Ghorbani, Seyed Alireza Alavi, Vahid Dehghani

EUROPEAN PHYSICAL JOURNAL A Volume: (58) 12-1 - 12-14

2021

4. Proton radioactivity half-lives with nuclear asymmetry factor

A. Soylu, F. Koyuncu, G. Gangopadhyay, Vahid Dehghani, Seyed Alireza Alavi

Chinese Physics C Volume: (45) 044108-1 - 044108-9

5. Alpha decay half lives of spherical even-even nuclei: Role of repulsive core

Fariba Ghorbani, Seyed Alireza Alavi, Vahid Dehghani

NUCLEAR PHYSICS A Volume: (1006) 122111-1 - 122111-11

6. Systematic of alpha decay half-lives: role of quantization condition

Mahla Hoseini tabatabai, Seyed Alireza Alavi, Vahid Dehghani

CANADIAN JOURNAL OF PHYSICS Volume: (99) 24 - 32

7. Application of the residual surface delta interaction in the β^+ decay of $(_{-}^{40})^{Sc}$ nucleus

Aref Yarahmadi, Vahid Dehghani, Seyed Alireza Alavi

Volume: (20) 667 - 679

2020

8. Temperature dependence of the alpha decay half-lives of even-even Th isotopes

Fariba Ghorbani, Seyed Alireza Alavi, Vahid Dehghani

NUCLEAR PHYSICS A Volume: (1002) 121947-1 - 121947-12

9. β^+/EC transitions of ^{40}Sc using Tamm-Dancoff approximation

Aref Yarahmadi, Seyed Alireza Alavi, Vahid Dehghani

CHINESE JOURNAL OF PHYSICS Volume: (66) 406 - 414

10. Heavy ion fusion reaction cross section: Analysis of the temperature dependence of the repulsive nuclear potential

Fariba Ghorbani, Seyed Alireza Alavi, Vahid Dehghani, A. Soylu, F. Koyuncu

PHYSICAL REVIEW C Volume: (102) 014610-1 - 014610-6

11. Proton-radioactivity Half-life Formulas with Isospin and Shell Effects

A. Soylu, F. Koyuncu, Seyed Alireza Alavi, Vahid Dehghani

ACTA PHYSICA POLONICA B Volume: (51) 2125 - 2138

2019

12. Prediction of Alpha Decay Half-Lives of $Z = 118-121$ Superheavy Nuclei with $A \geq 300$ by Using the Double-Folding Potential

Mahboobe Sayahi, Vahid Dehghani, D. Naderi, Seyed Alireza Alavi

ZEITSCHRIFT FÜR NATURFORSCHUNG SECTION A-A JOURNAL OF PHYSICAL SCIENCES Volume: (74) 551 - 560

13. Alpha and cluster decay of some deformed heavy and superheavy nuclei

Najmeh Maroofibabaki, Vahid Dehghani, Seyed Alireza Alavi

NUCLEAR PHYSICS A Volume: (983) 77 - 89

14. Role of magic numbers in thermodynamic quantities of ^{206}Pb and ^{138}Ba using BCS and Lipkin-Nogami models

Kh. Benam, Vahid Dehghani, Seyed Alireza Alavi

EUROPEAN PHYSICAL JOURNAL A Volume: (55) 1 - 14

15. CLUSTER DECAY HALF-LIFE WITH DOUBLE-FOLDING POTENTIAL: UNCERTAINTY ANALYSIS

Najmeh Maroofibabaki, Vahid Dehghani, Seyed Alireza Alavi

ACTA PHYSICA POLONICA B Volume: (50) 1349 - 1358

16. Mass-split dependence of pre-scission neutron multiplicity by four-dimensional Langevin dynamics in ^{16}O , ^{18}O , ^{40}Ar and ^{64}Ni -induced fusion-fission reactions

D. Naderi, Seyed Alireza Alavi, Vahid Dehghani

INTERNATIONAL JOURNAL OF MODERN PHYSICS E-NUCLEAR PHYSICS Volume: (28) 1950077-1 - 1950077-16

17. Study of Single Particle Energy Levels by Using Woods-Saxon Potential and its Approximate Solution in Harmonic Oscillator Basis

Naeeme Rahimiyan, Seyed Alireza Alavi, Vahid Dehghani

Volume: (9) 75 - 87

2018

18. Influence of the shell effects on evaporation residue cross section of superheavy nuclei

D. Naderi, Seyed Alireza Alavi

Nuclear Science and Techniques Volume: (29) 161-1 - 161-9

19. Calculation of proton radioactivity half-lives

Seyed Alireza Alavi, Vahid Dehghani, Mahboobe Sayahi

NUCLEAR PHYSICS A Volume: (977) 49 - 59

20. Role of constant value of surface diffuseness in alpha decay half-lives of superheavy nuclei

Vahid Dehghani, Seyed Alireza Alavi, Kh. Benam

MODERN PHYSICS LETTERS A Volume: (33) 1850080-1 - 1850080-10

21. Empirical formulas for proton decay half-lives: Role of nuclear deformation and Q -value

Vahid Dehghani, Seyed Alireza Alavi

Chinese Physics C Volume: (42) 104101-1 - 104101-10

22. Formation of Superheavy Elements: Study Based on Dynamical Approach

D. Naderi, Seyed Alireza Alavi

PHYSICS OF ATOMIC NUCLEI Volume: (81) 196 - 204

2017

23. Influence of deformed surface diffuseness on alpha decay half-lives of actinides and lanthanides

, Seyed Alireza Alavi, Vahid Dehghani

NUCLEAR PHYSICS A Volume: (963) 68 - 77

24. Investigation of heavy-ion fusion with deformed surface diffuseness Actinide and lanthanide targets

Seyed Alireza Alavi, Vahid Dehghani

PHYSICAL REVIEW C Volume: (95) 054602-1 - 054602-9

25. Alpha-induced reaction cross-section for Sm U Np targets influence of hexadecapole deformation and deformed surface diffuseness

Seyed Alireza Alavi, Vahid Dehghani

Chinese Physics C Volume: (41) 064104-1 - 064104-8

2016

26. Back shifted Fermi gas model with temperature dependent pairing energy Thermal properties of ^{98}Mo

Seyed Alireza Alavi, V. Dehghani

INTERNATIONAL JOURNAL OF MODERN PHYSICS E-NUCLEAR PHYSICS Volume: (25) 1650065 -

27. Nuclear level density of even-even nuclei with temperature-dependent pairing energy

Vahid Dehghani, Seyed Alireza Alavi

EUROPEAN PHYSICAL JOURNAL A Volume: (52) 306 - 313

28. Back shifted Fermi gas model with temperature dependent pairing energy: Thermal properties of ^{98}Mo

Seyed Alireza Alavi, Vahid Dehghani

INTERNATIONAL JOURNAL OF MODERN PHYSICS E-NUCLEAR PHYSICS Volume: (25) 1 - 10

29. Influence of nuclear deformation on level density parameter

Seyed Alireza Alavi, Vahid Dehghani

MODERN PHYSICS LETTERS A Volume: (31) 1 - 8

2014

30. NUCLEAR LEVEL DENSITY OF HEAVY NUCLEI $Z \geq 90$ THROUGH SEMICLASSICAL METHOD

Mohamad Reza Pahlavani, Seyed Alireza Alavi, Elham Farhadi

MODERN PHYSICS LETTERS A Volume: (29) 1450017 - 1450027

31. Effects of level density parameter on the superheavy production in cold fusion

, Seyed Alireza Alavi

MODERN PHYSICS LETTERS A Volume: (29) 1 - 13

32. NUCLEAR LEVEL DENSITY OF HEAVY NUCLEI $Z \geq 90$ THROUGH SEMICLASSICAL METHOD

, Seyed Alireza Alavi,

MODERN PHYSICS LETTERS A Volume: (29) 1 - 10

2013

33. Anisotropy of the angular distribution of fission fragments in heavy-ion fusion-fission reactions: The influence of the level-density parameter and the neck thickness

, , Seyed Alireza Alavi

PHYSICAL REVIEW C Volume: (87) 1 - 6

34. EFFECT OF NUCLEAR DEFORMATION ON THE POTENTIAL BARRIER AND ALPHA-DECAY HALF-LIVES OF SUPERHEAVY NUCLEI

, Seyed Alireza Alavi,

MODERN PHYSICS LETTERS A Volume: (28) -

2012

35. Solutions of Woods–Saxon Potential with Spin-Orbit and Centrifugal Terms through Nikiforov–Uvarov Method

, Seyed Alireza Alavi

COMMUNICATIONS IN THEORETICAL PHYSICS Volume: (58) 739 - 743

36. STUDY OF NUCLEAR BOUND STATES USING MEAN-FIELD WOODS SAXON AND SPIN-ORBIT POTENTIALS

, Seyed Alireza Alavi

MODERN PHYSICS LETTERS A Volume: (27) 1 - 13

Conferences Papers

2018

1. Levels and wave function of S-state neutron single particle by analytic method

24th Iranian Nuclear Physics Conference

Naeeme Rahimiyan, Seyed Alireza Alavi, Vahid Dehghani

2017

2. Influence of deformed surface diffuseness on effective potential of interaction between alpha particles and heavy nuclei

, Seyed Alireza Alavi, Vahid Dehghani

3. Study the electron capture transitions of ($^{21}_{40}\text{Sc}$) $^{19}_{20}$ ($^{20}_{40}\text{Ca}$) $^{20}_{20}$ using pnTDA and TDA approximations

Iranian Physics Conference

Aref Yarahmadi, Vahid Dehghani, Seyed Alireza Alavi

2016

4. The Colomb effect on electron-positron annihilation cross section

22th Iranian Nuclear Conference

, Seyed Alireza Alavi, Ali Akbar Mehman Doost Khajeh Dad