Curriculum Vitae: Prof. Badawy Abu-Ibrahim

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Name: **Prof. Dr. Badawy Abu-Ibrahim Ibrahim Sarhan.**

Date of birth: 12 Sept. 1968.

Nationality: Egyptian.

Position: Professor.

Major in : Theoretical Nuclear Physics.

Permanent work address: Physics Department, Faculty of science,
Cairo university, Giza 12613, Egypt.

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H-index (scopus): 16

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QUALIFICATIONS

1. **B.Sc** (Distinction), May 1992, Faculty of Science, Cairo University.

2. One-year Postgraduate Courses as a partial fulfillment of the requirements for the degree of Master of Science (Distinction), Sept. 1993.

3. **M.Sc**, entitled "**Projectile fragmentation in heavy ion reactions**", Sept. 1995, Faculty of science, Cairo university.

4. Two years Scholarship (Scientific channel) April 1998 - April 2000, in Physics Department, Faculty of Science, Niigata university, Niigata 950-2181, Japan. for finishing the PhD.

5. **PhD**, entitled "**Reactions of unstable nuclei within Glauber model**", December

2000, faculty of science, Cairo university.

6. **Course** , entitled **University Lecturer Training**, Educational Research Institute, Cairo University, 23 Sept. to 12 Oct. 2000.

7. **Course**, entitled **Modern Methods in Teaching**, Faculty and Leadership program (FLDP), Educational Research Institute, Cairo University, 21-24 May 2005.

8. **Course**, entitled **University Management**, Faculty and Leadership Development Center (FLDC), Cairo University, 10-12 July 2012.

9. **Course**, entitled **Legal and Financial Aspects in university environment**, Faculty and Leadership Development Center (FLDC), Cairo University, 14-16 July 2012.

10. **Course**, entitled **Strategic Planning**, Faculty and Leadership Development Center (FLDC), Cairo University, 7-9 July 2012.

11. **Course**, entitled **Quality Standards in Teaching**, Faculty and Leadership Development Center (FLDC), Cairo University, 14-16 July 2012.

12. **Course**, entitled **Conference Organization**, Faculty and Leadership Development Center (FLDC), Cairo University, 17-19 July 2012.

13. **Course**, entitled **International Publishing of Scientific Research**, Faculty and Leadership Development Center (FLDC), Cairo University, 17-19 July 2012.

14. **Organize the Egyptian Physicists Workshop** Cairo university, Egypt.

OCCUPATIONS

Inside Egypt

1. **Demonstrator**, 1993-1995, Physics Department, Faculty of Science, Cairo university, Egypt.

2. **Lecturer Assistant**, 1995-2000, Physics Department, Faculty of Science, Cairo university, Egypt.

3. **Lecturer**, 2000–2005, Physics Department, Faculty of Science, Cairo university, Egypt.

4. **Associate Professor**, 2006-2012, Physics Department, Faculty of Science, Cairo university, Egypt.

5. **Professor of theoretical physics**, Present, Since July 2012. Physics Department, Faculty of Science, Cairo university, Egypt.

6. **Chairman of the department of physics**, Faculty of Science, Cairo university, Egypt. From 26 October 2017 to 25 October 2020.

Outside Egypt

1. **Researcher**, 1998-2000, Physics Department, Faculty of Science, Niigata University, Niigata 950-2181 Japan.

2. **Collaborative Scientist**, December 2001 - June 2002, **RI beam Science Laboratory**, the Institute of Physical and Chemical Research (**RIKEN**), 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan.

3. **Visiting Researcher** JSPS Postdoctoral Fellowship for Foreign Researchers (No. P03023), May 2003 - January 2005, Physics Department, Faculty of Science, Niigata University, Niigata 950-2181, Japan.

4. **Visiting Researcher**, July 2006-September 2006, **RI beam Science Laboratory**, the Institute of Physical and Chemical Research (**RIKEN**), 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan.

5. **Visiting Researcher**, Januarry 2008-March 2008, **Heavy ion nuclear physics Laboratory**, the Institute of Physical and Chemical Research (**RIKEN**), 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan.

6. **Professor of theoretical physics** October 2008-July 2016, department of physics, Faculty of Science, Taibah university, Almadinah Almunawwarah, KSA.

Other

1. Editor in Egyptian Journal of Physics (https://ejphysics.journals.ekb.eg/)

2. Referee in Chinese Journal of Physics C, and Indian journal of physics

COOPERATION WITH OTHER UNIVERSITES

1. Collaboration with Prof. Y. Suzuki, Physics Department, Faculty of science, Niigata University, Niigata 950-2181, Japan.

2. Collaboration with Dr. A. Kohama, Heavy ion nuclear physics laboratory, the Institute of Physical and Chemical Research (**RIKEN**), 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan.

3. Collaboration with Dr. I. Iida, RIKEN BNL Research center, Brookhaven National Laboratory, upton, New York 11973-5000,USA.

4. Collaboration with Dr. K. Oyamatsu, Department of Media Theories and Production, Aichi Shukutoku University, Nagakute, Nagakute-cho, Aichi-gun, Aichi 480-1197, Japan.

TEACHING

A. At Cairo University (Physics Department)

1. Nuclear Physics I.

2. Electricity and Magnetism.

3. Mathematical Physics.

4. Electromagnetism.

5. Statistical Physics.

6. Quantum Mechanics I.

7. Quantum Mechanics II.
8. Computational Physics (Master students)

B. At Arab Academy for Science and Technology and Maritime Transport (Faculty of Engineering and Technology)

1. Electricity and Magnetism (first year).
2. Thermodynamics (first year).

C. At Taibah University (Faculty of Science, Department of Physics)

1. Quantum Mechanics (Master students).
2. Electrodynamics (Master students).
3. Computational Physics (Master students).
4. Quantum Mechanics II.
5. Quantum Mechanics I.
6. Nuclear Physics.
7. Electrodynamics.
8. Special Relativity.
9. Mathematical Physics I.
10. Mathematical Physics II.

COMPUTER EXPERIENCE

As a Programmer

1. Fortran 77 and Fortran 90
2. Mathematica

As a user

1. Unix (mainframe)
2. LateX
3. Windows (Powerpoint, Word,...)
4. Internet

SCIENTIFIC OUTPUT (LIST OF PUBLICATIONS)

A) Articles Published in International Refereed Journals

1. "Neutron skin of neutron-rich nuclei"
   I. A. M. Abdul-Magead and Badawy Abu-Ibrahim
   Phys. Rev. C **105**, (2022) 014626.

2. "Neutron radii and neutron skin of neutron-rich nuclei deduced from proton-nucleus total reaction cross sections "
   Ibrahim Abdul-Magead, Eman Hamza, Badawy Abu-Ibrahim
   Journal of Physics G: Nuclear Part, Phys: 47 (2020) 055103.

3. "Contribution of the projectile neutrons to the total charge-changing cross sections"
   Ibrahim Abdul-Magead, Badawy Abu-Ibrahim
   Nucl. Phys. A 1000 (2020) 121804.

4. "**Scaling laws for total reaction cross sections**"
   M. Saleh Yousef, M. Almarashi, and B. Abu-Ibrahim
   Phys. Rev. C **90**, (2014) 024608.

5. "**Proton-Nucleus Total Reaction Cross Sections in the Optical Limit Glauber Theory: Subtle Dependence on the Equation of State of Nuclear Matter**"
   Kei Iida, Kazuhiro Oyamatsu, Badawy Abu-Ibrahim and Akihisa Kohama
   Progress of Theoretical Physics, Vol. 126, (2011)1091.

6. "**Nucleus-nucleus total reaction cross sections, and the nuclear interaction radius**"
   Badawy Abu-Ibrahim
   Phys. Rev. C **83**, (2011) 044615.

7. "**Total reaction cross sections of light neutron-rich nuclei in the Glauber approximation**"
   A. Kohama, B. Abu-Ibrahim, W. Horiuchi, S. Iwasaki, and Y. Suzuki
   Modern Physics Letters A Vol. **25** (2010) 1963.

8. "**Scaling properties of proton-nucleus total reaction cross sections**"
   B. Abu-Ibrahim and A. Kohama
   Phys. Rev. C **81**, (2010) 057601.

9. "**Elastic and total reaction cross sections of oxygen isotopes in Glauber theory**"
   B. Abu-Ibrahim, S. Iwasaki, W. Horiuchi, A. Kohama and Y. Suzuki
   Journal of the Physical Society of Japan Vol. **78** (2009) 044201.

10. "**Reaction cross sections of carbon isotopes incident on a proton**"
    B. Abu-Ibrahim, W. Horiuchi, A. Kohama and Y. Suzuki
    Phys. Rev. C **77** (2008) 034607.

11. "**Systematic analysis of reaction cross sections of carbon isotopes**"
    W. Horiuchi, Y. Suzuki, B. Abu-Ibrahim, and A. Kohama
    Phys. Rev. C **75** (2007) 044607.

12. "**Observation of a two-proton halo in ^{17}N**"
    R. Kanungo, M. Chiba, B. Abu-Ibrahim, S. Adhikari, D. Q. Fang, N. Iwasa, K. Kimura, K. Maeda, S. Nishimura, T. Ohnishi, A. Ozawa, C. Samanta, T. Suda, T. Suzuki, Q. Wang, C. Wu, Y. Yamaguchi, K. Yamada, A. Yoshida, T. Zheng and I. Tanihata
    Eur. Phys. J. A **25**, s01 (2005) 327-330.

13. "**A new view to the structure of ^{19}C**"
    M. Chiba, R. Kanungo, B. Abu-Ibrahim, S. Adhikari, D. Q. Fang, N. Iwasa, K. Kimura, K. Maeda, S. Nishimura, T. Ohnishi, A. Ozawa, C. Samanta, T. Suda, T. Suzuki, Q. Wang, C. Wu, Y. Yamaguchi, K. Yamada, A. Yoshida, T. Zheng and I. Tanihata
    Eur. Phys. J. A **25**, s01 (2005) 261-262.

14. **Addenda**"**Breakup of one-neutron halo nuclei within eikonal model**"
    B. Abu-Ibrahim, Y. Suzuki,
    Progress of Theoretical Physics,
    Vol. **114** (2005) 901-903

15. "**Breakup effect on the reactions of ^{4,6}He and ^{6}Li**"
    B. Abu-Ibrahim,
    Progress of Theoretical Physics,
    Vol. **113**, No. **2** (2005) 341-353.

16. "**Deducing the Density Dependence of the Symmetry Energy from Unstable Nuclei**"
    Kei Iida, Kazuhiro Oyamatsu, Badawy Abu-Ibrahim,
    Progress of Theoretical Physics Supplement
    Vol. **156** (2004) 139.

17. "**Effect of reaction mechanism on scattering of halo nuclei**"
    M. Orabi, B. Abu-Ibrahim and M. M. Sherif
    Egypt. J. Phys. Vol. **35**, No. 1, (2004)131-146.

18. "**Breakup of one-neutron halo nuclei within eikonal model**"
    B. Abu-Ibrahim, Y. Suzuki,
    Progress of Theoretical Physics,
    Vol. **112**, No. **6** (2004)1013-1032.

19. "**Structure of ^{15,16}C and the phenomenology of the hindered E2 transition in ^{16}C**"
    Y. Suzuki, H. Matsumura and B. Abu-Ibrahim,
    Phys. Rev. C **70** (2004)051302(R)

20. "**Neutron removal studies on ^{19}C**"
    M. Chiba, R. Kanungo, B. Abu-Ibrahim, S. Adhikari, D. Q. Fang, N. Iwasa, K. Kimura, K. Maeda, S. Nishimura, T. Ohnishi, A. Ozawa, C. Samanta, T. Suda, T. Suzuki, I. Tanihata, Q. Wang, C. Wu, Y. Yamaguchi, K. Yamada, A. Yoshida, T. Zheng,
    Nucl. Phys. A **741** (2004)29-41.

21. "**Dynamic polarization potentials for the halo nucleus ^{6}He in medium-energy elastic scattering**"

B. Abu-Ibrahim, Y. Suzuki,
Phys. Rev. C **70** (2004)011603(R)

22. "**One-and two-proton removal from ^{15}O**"
H. Jeppesen, R. Kanungo, B. Abu-Ibrahim, S. Adhikari, M. Chiba, D. Fang, N. Iwasa, K. Kimura, K. Maeda, S. Nishimura, T. Ohnishi, A. Ozawa, C. Samanta, T. Suda, T. Suzuki, I. Tanihata, Q. Wang, C. Wu, Y. Yamaguchi, K. Yamada, A. Yoshida, T. Zheng,
Nucl. Phys. A **739** (2004)57-66

23. **Breakup effects in ^{6}He+^{12}C elastic scattering**"
B. Abu-Ibrahim, Y. Suzuki,
Nucl. Phys. A **738** (2004)440-444

24. Erratum to "**The optical potential of ^{6}He in the eikonal approximation**"
B. Abu-Ibrahim, Y. Suzuki,
Nucl. Phys. A **732** (2004)218-219

25. "**Proton-nucleus elastic scattering and the equation of state of nuclear matter**"
Kei Iida, Kazuhiro Oyamatsu, Badawy Abu-Ibrahim,
Phys. Lett. B **576** (2003)273-280

26. "**The optical potential of ^{6}He in the eikonal approximation**"
B. Abu-Ibrahim, Y. Suzuki,
Nucl. Phys. A **728** (2003)118-132

27. "**Cross section calculations in Glauber model: I. Core plus one-nucleon case**"
B. Abu-Ibrahim, Y. Ogawa, Y. Suzuki, I. Tanihata
Computer Physics Communications **151** (2003) 369-386

28. "**Calculation of nucleus-nucleus cross sections at intermediate energies using Gluaber theory**"
B. Abu-Ibrahim, Y. Suzuki,
Nucl. Phys. A **706** (2002) 111-122

29. "**Scatterings of Complex nuclei in the Glauber model**"
B. Abu-Ibrahim, Y. Suzuki,
Phys. Rev. C **62**, (2000) 034608

30. "**Utility of nucleon-target profile function in cross section calculations**"
B. Abu-Ibrahim, Y. Suzuki,
Phys. Rev. C **61**, (2000) 051601 (R)

31. "**Calculation of the complete Glauber amplitude for p+^{6}He scattering**"
B. Abu-Ibrahim, K. Fujimura, Y. Suzuki,
Nucl.Phys. A **657** (1999) 391

B) Contribution to Academic Conferences and Workshops

1. "**Method for calculating the complete expansion of the Glauber amplitude and its application to halo nuclei**",
   Meeting Abstracts of the Physical Society of Japan, Volume 54, Issue 1, part 1, page 35.
   54th Annual Meeting, March 28 (1999), Hiroshima University, Hiroshima, Japan.

2. "**Method for calculating the complete expansion of the Glauber amplitude**",
   workshop, the Institute of Physical and Chemical Research (RIKEN), 3 April 1999. 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan.

3. "**Heavy ion stripping reactions at intermediate energies**",
   Proceeding of 26th international Cosmic rays conference, August 17-25, Vol. 1 (1999) 202,
   Salt Lake city, Utah, USA

4. "**High energy elastic scattering of ^{6}He + ^{12}C in a complete expansion of the Glauber amplitude**",
   Meeting Abstracts of the Physical Society of Japan, Volume 54, Issume 2, part 1, page 25,
   Sectional Meeting, Sept. 23 (1999), Shimane University, Matsue, Japan.

5. "**Complete Glauber model calculations of reaction with unstable nuclei**",
   Workshop, Yukawa institute for theoretical physics, 10 Nov. 1999, Kyoto, Japan.

6. **Utility of nucleon-target optical potential in cross section calculations for Exotic nuclei**"
   International Workshop on "Reaction Mechanisms with Exotic Nuclei",
   Trento, I , February 19th March 2nd 2001, Italy.

7. **Cross section calculations in Glauber model: I. Core plus one-nucleon case**",
   RIKEN AF-NP-428. June 2002. 31pp

8. "**Cross section calculations in Glauber model: I. Core plus one-nucleon case**",

RIKEN Accel. Prog. Rep. 36 (2003)17.

9. "**Interactions of halo nuclei**" ,
   High-energy workshop, Physics Department, Cairo University, 12-15 Jan, 2003, Cairo, Egypt.

10. "**The effect of reaction mechanism on the scattering of halo nuclei**",
    International Conference on "Mathematics, Nuclear Physics and applications in 21st century", Atomic Energy Authority, 8-13 March 2003, Cairo, Egypt.

11. "**Breakup effects in ^{6}He+^{12}C elastic scattering**"
    Meeting Abstracts of the Physical Society of Japan, Volume 58, Issume 2, part 1, page 23, Sectional Meeting, Sept. 9 12 (2003),
    Miyazaki World Convention Center, Miyazaki, Japan.

12. "**Breakup effects in ^{6}He+^{12}C elastic scattering**"
    International Symposium "A New Era of Nuclear Structure physics", Nov. 19 22 (2003), Kurokawa Village, Niigata, Japan.

13. "**Breakup effects in ^{6}He+^{12}C elastic scattering**",
    The 8th International Conference on "Clustering Aspects of Nuclear Structure and Dynamics",
    Nov. 24 29 (2003), Nara, Japan.

14. "**Elastic versus inelastic breakup of halo nuclei**"
    JPS meeting March 2004

15. "**Breakup of halo nuclei**"
    RIKEN workshop 15-17 June 04, 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan.

16. "**Dynamic polarization potentials for the halo nucleus ^{6}He in medium-energy elastic scattering**"
    JPS meeting Sept. 2004

17. "**Reactions of Exotic nuclei**"
    March 2, 2005, Department of Physics, Cairo university, Giza 12613, Egypt.

18. "**Description of reaction cross sections in a parameter free eikonal model**"
    RIKEN, RIBF Lab., Sept. 5, 2006, 2-1 Hirosawa, Wako-shi, Saitama 351-0198, Japan.

19. "**Systematic analysis of reaction cross sections of carbon isotopes**"
    B. Abu-Ibrahim, W. Horuchi, A. Kohama, and Y. Suzuki
    RIKEN Accel. Prog. Rep. 40 (2007)

20. "**Reaction cross sections of carbon isotopes incident on proton and ^{12}C target**"
    B. Abu-Ibrahim, W. Horuchi, A. Kohama, and Y. Suzuki
    International Nuclear Physics Conference, June 3-8 (2007), Tokyo, Japan.

21. "**Interaction cross sections and the Glauber model**"
    A. Kohama, B. Abu-Ibrahim, W. Horuchi, S. Iwasaki and Y. Suzuki
    halo 2010 workshop, December 6-8 (2010), Hayama, Japan.

22. "**Elements of a successful research paper**"
    Badawy Abu-Ibrahim
    Egyptian Physicists Workshope, April 21 (2018), Cairo university, Egypt.

The following above mentioned papers have evolved from my doctoral thesis: **A20-23, B1-2 and B4-6**. Also **B3** from my Master thesis.

C) Supervision

Master Degree

1. **Title "Study of improvements for the eikonal few-body model"**
   Momen Ahmed Orabi,
   Physics Department, Cairo university, September 2003.

D) Books

1. **Title "Fundamental laws of life"**
   Badawy Abu-Ibrahim,
   Kotobna
   ISBN: 978-1-64516-845-4
   Arabic Language, 2019

2. **Title "Creation or accident: Dialogue between Science and Atheism "**
   Badawy Abu-Ibrahim,
   Dar elfikr elarabi
   ISBN: 978-977-10-3543-5
   Arabic Language, 2020

E) International Professional Trainer

I got "Certificate International Professional Trainer (CIPT). A Professional course of study authorized by the International Leadership and Training Center at Missouri State University Provided by FLDC.

Now I am "International Professional Trainer", At Faculty and Leadership Development Center (FLDC), Cairo University, I teach the following courses:

1. **Effective Teaching Skills**

2. **Creative Thinking**

Also, I can teach any other required courses.