

APPLICATION

FOR

POSTDOCTORAL POSITION

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Curriculum Vitae

Family Name: WEI
First Name: Yi bin
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Date of Birth: 11/01/1978
Place of Birth: Suzhou City
Anhui Province
P.R. China
Citizenship: P.R. China
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EDUCATION

- Ph.D. in Particle Physics and Nuclear Physics: Shanghai Institute of Applied Physics, CAS.
September.2000 - July.2005 (Thesis advisor: Yu-gang Ma, Wen-qing Shen)
- A.B. in Applied Physics. Wuhan University, China.
September.1996 - July.2000

HONORS and AWARDS:

1. The People Scholarship, 1997~1998; 1998~1999; 1999-2000, Wuhan University
2. The Excellent Graduate, 2000, Wuhan University
3. The Institute Scholarship for Excellent student, 2003-2004, SINAP
4. **The President Scholarship of the Chinese Academy of Science, 2003-2004, CAS**

For the 4th scholarship, I want to explain it briefly. This scholarship is awarded for those who achieved excellent research results in the past year during about 28,000 graduates of the Chinese Academy of Science and the University of Science and Technology of China. The total number of the fellows who achieved this scholarship in all science area is no more than 200 per academic year. It is known widely and considered as the confirmation of the research ability.

SUMMER SCHOOL AND WORKSHOPS:

1. International Summer School and Workshop on QCD and RHIC Physics, CCAST, Beijing, China, August 9-14, 2004.
2. The Doctoral Forum of China, Peking University, Beijing, China. August 22-24, 2004
3. International Summer School on Subatomic Physics, Peking University, China, August 25-30, 2004.

TALKS and SEMINARS

1. The Doctoral Forum of China, Invited talk in physics part
“HBT Study of the Nuclear Reaction at Intermediate Energy”
August 22-24, 2004
2. The Autumn Conference of Chinese Physics Society, Invited talk at nuclear physics part
“Nucleon-nucleon momentum correlation function for neutron-rich nuclei”
September 18-24, 2004

REFERENCES:

1. The second Asia-Pacific Conferences on Few-body Problems in Physics, August 27-30, 2002, Shanghai, China
2. The Chinese Physics Annual Conference, September 18-24, 2004, Shan'xi, China (CPS2004)

PROGRAMME PARTICIPATED

1. The Major State Basic Research Development Program under Contract No G200077404;
2. The Chinese Academy of Sciences Grant for the Distinguished Young Scholars of National Natural Science Foundation of China under Grant No 19725521;
3. The National Natural Science Foundation of China under Grant No.10135030 and No.10328509.

PUBLICATIONS LIST

1. **Y.B. Wei**, Y.G. Ma, W.Q. Shen, G.L. Ma, K. Wang, X.Z. Cai, C. Zhong, W. Guo, J.G. Chen
“Exploring the binding energy and separation energy dependences of HBT strength”
Physics Letters B Vol.586, 225~231 (2004)
 2. **Y.B. Wei**, Y.G. Ma, W.Q. Shen G.L. Ma, K. Wang, X.Z. Cai, C. Zhong, W. Guo, J.G. Chen, D.Q. Fang, W.D. Tian
“Systemic studies of binding energy dependence of neutron-proton momentum correlation function”
Journal of Physics G 30 2019~2026 (2004)
 3. **Wei Yi-Bin**, Cai Xiang-Zhou, Shen Wen-Qing, Ma Yu-Gang, Zhang Hu-Yong, Zhong Chen, Guo Wei, Chen Jin-Gen, Ma Guo-Liang, Wang Kun
“Total Reaction Cross Section in an Isospin-Dependent Quantum Molecular Dynamics Model”
Chinese Physics Letters Vol.21, No.3, 354~357 (2003)
 4. **Wei Yi-Bin**, Ma Yu-Gang, Shen Wen-Qing, Ma Guo-Liang, Wang Kun, Cai Xiang-Zhou, Zhong Chen, Guo Wei, Chen Jin-Gen, Zhou Xing-Fei
“A new Possible Probe for Investigating the Exotic Structure of Neutron-Rich Nuclei by using the Hanbury-Brown-Twiss Method.”
Chinese Physics Letters Vol.22, No.4, 629~631 (2004)
 5. **Wei Yi-Bin** Ma Yu-Gang, Cai Xiang-Zhou, Zhong Chen, Chen Jin-Gen, Zhang Hu-Yong, Wang Kun, Ma Guo-Liang, Guo W, Tian Wen-Dong, Zhou Xing-fei, Shen Wen-Qing
“Parallel Momentum distribution of the ^{28}Si fragments after one-proton removal from ^{29}P .”
Chinese Physics Letters to be published in No.1 (2005)
 6. Y.G. Ma, K. Wang, **Y. B Wei**, G.L. Ma, X.Z. Cai, J.G. Chen, D.Q. Fang, W. Guo, W.Q. Shen, W.D. Tian, and C. Zhong
“Isoscaling in the lattice gas model”
Physical Review C Vol. 69, 064610~064614. (2004)
 7. **Y.B. Wei**, Y.G. Ma, K. Wang, G.L. Ma, X.Z. Cai, J.G. Chen, D.Q. Fang, W. Guo, W.Q. Shen, W.D. Tian, and C. Zhong
“HBT Study of Nuclear Reaction at Intermediate Energy ”
In preparation for **Physical Review C** (2004)
 8. K Wang, Y. G Ma, **Y. B Wei**, X. Z Cai, J. G Chen, D. Q Fang, W Guo, G. L Ma, W. Q Shen, W D Tian, C Zhong, X F Zhou
“ Isoscaling of the Fission Fragments with Langevin Equation”
Physical Review C (Submitted) (2004)
 9. Wang Kun, Ma Yu-Gang, Ma Guo-Liang, **Wei Yi-Bin**, Cai Xiang-Zhou, Chen Jin-Gen, Guo Wei, Zhong Chen, Shen Wen-Qing
“A Proposed Reaction Channel for the Synthesis of the Superheavy Nucleus $Z=109$ ”
Chinese Physics Letters Vol. 21 No.3 464~467(2004)
 10. Wang Kun, Ma Yu-Gang, **Wei Yi-Bin**, Cai Xiang-Zhou, Chen Jin-Gen, Fang De-Qing, Guo Wei, Ma Guo-Liang, Shen Wen-Qing, Tian Wen-Dong, Zhong Chen, Zhou Xing-Fei
Isoscaling of the Fission Fragments with Langevin Equation
Chinese Physics Letters to be published in No.1 (2005)
- And 19 cooperation papers additionally.

RESEARCH INTEREST

My researches center on nuclear physics both theoretically and experimentally, focusing on the details of the heavy ion reactions and the nuclear structure.

One part of my research is to attend the experiment and analyse the data. I attended the experiments performed at Radioactive Ion Beam Line in Lanzhou (RIBLL) twice. One was performed in December 2001, which was the cooperated experiment with the researchers from RIKEN. The other was performed in January 2002, which was to search for the proton-halo structure in the nuclei with the mass number around 30. After the analysis of the parallel momentum distribution of proton-rich nucleus of ^{29}P , I found the value of the FWHM of ^{28}Si fragmented from ^{29}P is small. Combined with the theoretical analysis, the data I completed shows that there exists the proton-skin structure in ^{29}P . This was reported for the first time and the paper of this task will be published soon.

Another part of my work is to study the nuclear reaction and the nuclei structure with various approaches, i.e, IDQMD model, Skyrme-Hartree-Fock, Relative-Mean-Field, Glauber Model and etc. Firstly, I studied the many aspects of the nuclear reaction with the model: the Isospin-Dependent Quantum Mechanics Dynamics (IDQMD) model. After the adjustment and modified, the IDQMD model was developed to calculate the total reaction cross section at intermediate energy for the first time. Very recently, another work is concerned with the HBT approach to study the nuclear reaction at intermediate energy. A novel path for the study of exotic nuclei has been applied. With this method, I got the information of the reaction details through the final state of interaction (FSI). Some very interesting results have been obtained and reported in the journal of Physics Letters B. The paper about my systemic research results of HBT on nuclei structure has been accepted by the Journal Physics G. And the experiment proposal about this new method has been accepted by the Commission of RIBLL. What is more, the isoscaling character in the fragments of the nuclear reaction is also explored. Some probes of the reaction, which includes the chemical potential and the reaction temperature, have been reached. The paper is in preparation.

Our group has performed one experiment in RIKEN measuring the total reaction cross section and parallel momentum distribution of ^{23}Al . I am analyzing part of the experimental data now.

During the past four years, I have been skilled both in the part of the experiment and theory of the nuclear physics. I often feel pleasant during the research. I prefer to continue the research in physics and will try to explore the mysterious phenomenon of this world.

LETTERS OF RECOMMENDATION

The following three people have written the recommendation letters for me.

- **Wang Bo**

Professor,
Dean of the National Positron Professional Commission
Leader of the Positron Group of Wuhan University
Vice-Dean of the Key Laboratory of the Solid Physics of Hubei Province
Department of Physics
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- **Li Jin Chai**

Professor,
Leader of ACC-Lab of Wuhan University
Department of Physics
Wuhan University
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Research Experience:

Visiting scholar, Nuclear center, CNRS, Strasbourg, France, 1984.7~1986.8

Advanced visiting scholar, Argonne National Laboratory, U.S.A, 1994.8~1995.9

- **He Ze Jun**

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