

Curriculum Vitae

Yan Xue

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I. Personal Information

Full Name : Yan Xue
Gender : Female
Degree: Ph. D.
Major : Optical Communication & Technology
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Date and place of birth : Jan 23, 1979 in China
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Personalities : Responsible, Honestly, Diligent
Research aspect: quantum information, quantum optics, BEC & Cold atom



II. Education

09/2004—07/2007: College of Physics, Jilin Univ. Jilin Province, P. R. China
Graduate study for Ph.D. degree
Major: Optical Communications & Technology
Specialty: quantum optics, nonlinear optics
Thesis: Theoretical investigations based on Electro-magnetically induced transparency in quantum interference system

09/2001—07/2004: College of Physics, Jilin Univ. Jilin Province, P. R. China
Graduate study for Master degree
Major: Optical Communications & Technology
Specialty: quantum optics
Thesis: The phase dependent properties of gain and absorption in a four level system with a closed interaction contour

09/1997—07/2001: College of Physics, Jilin Univ. Jilin Province, P. R. China
Major: Optics
Degree: Bachelor of Science in Physics (July, 2001)
Thesis: The measurement of the flare angle of a Gaussian beam

III. Academic Honors

Graduate:

2005-2006: “Quintessence Cup” Graduate student scholarship (6 / whole College.)

2004-2005: “Qiushi” Graduate student scholarship (20 / whole Univ.)

2004: Outstanding Graduate of Jilin University

2002-2006: Excellent Graduate Scholarship; Excellent Graduate Student

(per academic year from 2002 to 2006)

Undergraduate:

2000-2001: First prize of Excellent Student Scholarship; Excellent Student

1997-2000: Second prize of Excellent Student Scholarship; Excellent Student

(per academic year from 1997 to 2000)

IV. Experiences

A. Positions (permanent):

07/2007- present Promoted as a 'Lecture'

09/2005-06/2007 Employed in college of Physics of Jilin University as an 'assistant'.

B. Official internal scientific collaboration programs

- **Director (coordinator) of the projects**

2011-2013 Supported by the basic research foundation of Jilin University

“The dynamical optical switch in the medium driven by the standing wave”

2010-2012 Supported by the National Natural Science Foundation of China (Grant No. 10904047)

(especially for researcher younger than 35 years old)

“The slow light propagation in ultra-cold ensembles driven by standing wave and corresponding applications in quantum information”

2005-2007 Supported by the fund for the Graduate Innovation of Jilin Univ

“The coherent enhancement of four-wave mixing”

● **Main Researcher of the projects**

- 2012-2014 Supported by the National Natural Science Foundation of China (Grant No. 11104111) (Director: Associate Prof. G. Wang)
(especially for the researcher younger than 35 years old)
“High-fidelity optical quantum storage in Rb isotope atomic vapor”
- 2008-2010 Supported by the National Natural Science Foundation of China (Grant No. 10774058) (Director: Prof. X. M. Su)
“The study on the quantum interference effect in the medium driven by the standing wave”
- 2007-2011 Supported by the Major Program of the National Natural Science Foundation of China (Grant No. 2006CB921103) (Director: Prof. J.Y. Gao)
“Coherent controlling and quantum information storage in the cold system”
- 2005-2007 Supported by the National Natural Science Foundation of China (Grant No. 10404009) (Director: Prof. J. H. Wu)
(especially for the researcher younger than 35 years old)
“Dynamical studies on decay induced coherence in atom and quantum wells”

C. Research topics

07/2004-present Research focus on the quantum optics and atom physics

- Quantum non-demolition measurement; optical routine *in process*
- Study on the characters of Rydberg states *see publications[2]*
- The optical characters such as (quasi-)stationary light, beating signals and so on of the cold atom modulated periodically by standing wave *see publications[3,5,8]*
- Four-wave mixing enhancement *see publications[1,4,6,7,12]*
- stimulated Raman adiabatic passage (STIRAP) *see publications[9,10]*
- Optical switch in quantum well and isotope *see publications[7,17]*
- Tunable stop-band *see publications[13]*

07/2001-06/2004 Theory & experiment on quantum optics and light scattering

- The effect of the relative phase in a closed loop *see publications[14,15,18,19]*
- Light scattering *see publications[11,16]*

07/2000-06/2001 The measurement of the flare angle of a Gaussian beam

- Thesis for Bachelor of Science in Physics

D. Academic visit

- **Visit in Scuola Normale Superiore di PISA, Italy.**

Research cooperatively on Four-wave mixing with Italian scientists: Prof. LaRocca and Prof. Artoni.

- **Visit in InHa University, Korea**

Research cooperatively on the (quasi-)stationary light with Korean scientists: Prof. Ham

E. Teaching Activities

- **Courses Lectures:**

Based Physics	-winter semester, 2011 (167 students) & 2010 (200 students) & 2009 (267 students), 3 hours per week	
Mechanics	-summer semester, 2010 (224 students) & 2011 (245 students), 2 hours per week	assistant
Optics	-winter semester, 2008 (220 students), 2 hours per week	assistant
Electromagnetics	-summer semester, 2000 (30 students), 2 hours per week	assistant

- **Supervisor of Bachelor thesis**

D. B. Wei,	The effect of energy level structure on the stimulated Raman adiabatic passage, (2009)
F. X. Zhou,	Theoretical studies on Electromagnetically Induced Transparency, (informal co-supervision, supervision: Prof. J. Y. Gao, 2005)

V. Publications

1. G. Wang, L. Cen, Y. Qu, **Y. Xue(corresponding author)**, J. H. Wu, and J. Y. Gao, "Intensity-dependent effects on four-wave mixing based on electromagnetically induced transparency", **Optics Express** 19, 21614 (2011)
2. C. L. Cui, J. K. Jia, Y. Zhang, **Y. Xue(corresponding author)**, H. L. Xu and J. H. Wu, "Resonant gain suppression and quantum destructive interference in a three-level open V system", **J. Phys. B** 44, 215504 (2011)
3. Q. Q. Bao, J. W. Gao, C. L. Cui, G. Wang, **Y. Xue(corresponding author)**, and J. H. Wu, "Dynamic generation of robust and controlled beating signals in an asymmetric procedure of light storage and retrieval", **Optics Express** 19, 11832 (2011)

4. **Y. Xue**, G. Wang, J. H. Wu, B. Zhang and J. Y. Gao, “Dynamical effects of four-wave-mixing enhancement induced by constructive quantum interference”, **Chinese Physics B** 20, 033403 (2011)
5. Y. Zhang, **Y. Xue**, G. Wang, C. L. Cui, R. Wang, and J. H. Wu, “Steady optical spectra and light propagation dynamics in cold atomic samples with homogeneous or inhomogeneous densities” **Optics Express** 19, 2111 (2011)
6. G. Wang , **Y. Xue**, J. H. Wu , Z. H. Kang , Y. Jiang , S. S. Liu , and J. Y. Gao, “Efficient frequency conversion induced by quantum constructive interference”, **Optics Letters** 35, 3778 (2010)
7. G. Wang, **Y. Xue**, J. H. Wu, S. S. Liu, Y. Jiang, Z. H. Kang, and J. Y. Gao, “Dual-channel all-optical wavelength conversion switching by four-wave mixing”, **Optics Express** 17, 23332 (2009)
8. **Y. Xue**, and B. S. Ham, “Investigation of temporal pulse splitting in a three-level cold-atom ensemble”, **Physical Review A** 78, 053830 (2008)
9. **Y. Xue**, G. Wang, J. H. Wu, and J. Y. Gao, “Optical gain properties in a coherently prepared four-level cold atomic system”, **Physical Review A** 75, 063832 (2007)
10. C. L. Cui, J. K. Jia, J. W. Gao, **Y. Xue**, G. Wang, and J. H. Wu, “Ultraslow and superluminal light propagation in a four-level atomic system”, **Physical Review A** 76, 033815 (2007)
11. G. Wang, **Y. Xue**, Z. H. Kang, Y. Jiang, Z. S. Zhao, and J. Y. Gao, “Influence of sampling rate on the precision for particle size by dynamic light scattering with analog detection”, **Appl. Opt.** 46, 234 (2007)
12. **Y. Xue**, Q. Y. He, G. C. LaRocca, M. Artoni, J. H. Xu, and J. Y. Gao, “Dynamic control of four-wave-mixing enhancement in coherently driven four-level atoms”, **Phys. Rev. A** 73, 013816 (2006)
13. Q. Y. He, **Y. Xue**, G. C. LaRocca, M. Artoni, J. H. Xu, and J. Y. Gao, “Coherently induced stop-bands in resonantly absorbing and inhomogeneously broadened doped crystals”, **Phys. Rev. B** 73, 195124 (2006)
14. G. Wang, **Y. Xue**, J. H. Wu, J. Y. Gao, “The phase dependent properties of gain and absorption in an Er^{3+} -doped yttrium aluminum garnet crystal”, **Opt. Commun.** 267, 118 (2006)
15. G. Wang, **Y. Xue**, J. H. Wu, J. Y. Gao, “Phase dependence of optical dispersion and group velocity in an Er^{3+} -doped yttrium aluminum garnet crystal”, **J. Phys. B** 39, 4409 (2006)
16. G. Wang, **Y. Xue**, Z. H. Kang, Y. Jiang, Z. S. Zhao, and J. Y. Gao, “High-resolution dynamic light scattering using a software correlator with analog detection”, **Rev. Sci. Instrum.** 77, 086102 (2006)
17. **Y. Xue**, X. M. Su, G. Wang, Y. Chen and J. Y. Gao, “Photon switch in quantum well by quantum interference in interband transitions”, **Opt. commun.** 249, 231 (2005)

18. **Y. Xue**, G. Wang, H. F. Zhang and J. Y. Gao, “Gain properties in a three level system with a closed interaction contour”, **Eur. Phys. J. D** 33, 123 (2005)
19. **Y. Xue**, G. Wang, J. H. Wu, W. H. Xu, H. H. Wang, S. A. Babin and J. Y. Gao, “The phase dependent double electromagnetically induced transparency in a four-level system with closed interaction contour”, **Phy. Lett. A** 324, 388 (2004).

VI. Academic Conferences

1. **Y. Xue** and J. Y. Gao, “Investigation of temporal pulse splitting in a three-level cold-atom ensemble driven by standing wave”, 2008’ General Meeting of Chinese Optical Society, Jinan in Shandong Province, September 19-21, 2008.
2. **Y. Xue** and J. Y. Gao, “Enhancement of four-wave mixing via optimized atomic coherence prepared in a V model”, 2005’ China Doctoral Forum in Physics, posting, ShangHai, Aug., 2005.
3. **Y. Xue** and J. Y. Gao, “Gain equalization in a three level system with a closed interaction contour”, 2004’ General Meeting of Chinese Optical Society, hangzhou in Zhejiang Province, March, 2004.
4. **Y. Xue**, G. Wang, H. F. Zhang and J. Y. Gao, “Gain equalization by quantum interference in an Er^{3+} -doped yttrium aluminum garnet crystal”, International Conference on CITSA 2004, July 21-25, 2004 - Orlando, Florida, USA.

VII. References

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