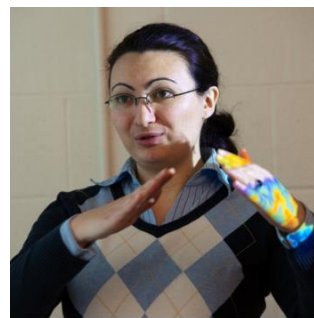


Maia Magrakvelidze

Physics Department
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EDUCATION

- 2013 **PhD Atomic and Molecular Physics – Kansas State University, Manhattan, KS** (*Oct–2013*)
Advisor: Dr. Uwe Thumm
Dissertation: “*Dissociation dynamics of diatomic molecules in intense laser fields*”
Available at: (<http://jrm.phys.ksu.edu/theses.html#Maia-PhD>)
- 2009 **MS Atomic and Molecular Physics – Kansas State University, Manhattan, KS**
Advisors: Dr. Uwe Thumm and Dr. Igor Litvinyuk
Thesis: “*Nuclear Dynamics and Ionization of Diatomic Molecules in Intense Laser Fields*”
Available at: (<http://jrm.phys.ksu.edu/theses.html#Magrakvelidze-MS>)
- 2005 **MS Condensed Matter Physics – with distinction – Tbilisi Ivane Javakhishvili State University, Tbilisi, Georgia**
Advisors: Dr. Yuri Papava and Dr. Gela Dzamukashvili
Thesis: “*Resonance in spatial movement of hot electrons in superlattices with high potential barriers*”
- 2003 **BS Physics – in theoretical physics with distinction – Tbilisi Ivane Javakhishvili State University, Tbilisi, Georgia**
Undergraduate research advisor: Dr. Yuri Papava

EMPLOYMENT

- 2016–Present **Assistant Professor, University of Mary Washington, Fredericksburg, VA**
- 2015–2016 **Instructor, Kansas State University, Manhattan, KS**
General physics 1– lecturer (~40 students, algebra based).
PHYS213: Engineering Physics 1– primary instructor (~40 students, calculus based).
- 2013–2015 **Postdoctoral Research Associate, Northwest Missouri State University, Maryville, MO** (Includes mentoring undergraduate students).
- Spring 2013 **Graduate Teaching Assistant, Kansas State University, Manhattan, KS**
PHYS213: Engineering Physics 1 – primary instructor (~40 students, calculus based).
- 2006–2013 **Graduate Research Assistant, Kansas State University, Manhattan, KS**
AMO experimental physics research from Fall 2006 – Fall 2009.
AMO theoretical physics research from Spring 2010.
- 2005–2006 **Graduate Teaching Assistant, Kansas State University, Manhattan, KS**
PHYS213: Engineering Physics 1 (Fall 2005) – Secondary instructor (~40 students, calculus based).
PHYS101: Physical World 1 (Fall 2005) – Grader
PHYS214: Engineering Physics 2 (Spring 2006) – Secondary instructor (~40 students, calculus based).
PHYS115: Descriptive Physics (Spring 2006) – Grader

- 2003 Sep–Dec Taught “Classical mechanics” in Tbilisi State University for undergrad students (Language – Georgian).
- 2003 Jan–May Taught Math, Physics and Programming in High school, Georgia (Language–Georgian).

AWARDS

- **K–State Physics Outstanding Graduate Student Researcher Award** for the year 2013, Kansas State University.
- **Second prize** in the “65th Student Conference (2005)”, Tbilisi Ivane Javakhishvili State University, Tbilisi, Georgia.
- **Second prize** in the Soros Student and Post–graduate Students Conference (2004), organized by international Soros science education programs foundation.
- **Third prize** in the “63rd Student conference (2003)”, Tbilisi Ivane Javakhishvili State University, Tbilisi, Georgia.
- **Third prize** in the Soros Student and Post–graduate Students Conference (2003), organized by international Soros science education programs foundation.

RESEARCH AREAS AND INTERESTS:

The focus of research is the theoretical study of dynamics of diatomic molecules in strong laser fields.

Main areas of interest include:

- Exploring the nuclear dynamics of diatomic molecules in infrared (IR) and extreme ultraviolet (XUV) laser fields.
- Developing numerical tools to investigate the nuclear dynamics in diatomic molecules, including wave packet revivals, dephasing, quantum beat imaging, kinetic energy release spectra (KER).
- Investigating the nuclear dynamics of excited diatomic molecular ions by applying intense ultrashort probe pulses, calculating the KER spectra as a function of the pump–probe delay and comparing with the measured data.
- Calculating *ab initio* adiabatic potential energy curves and their electric dipole–couplings, using the quantum chemistry code GAMESS.
- Also interested in laser–matter interaction such as photoionization of atoms, and fullerenes, endohedral fullerenes.

TECHNICAL CAPABILITIES

Computer languages: FORTRAN

Math Software: Matlab, Mathematica, Origin

Operating Systems: Windows, Linux

Other Tools: LATEX, GAMESS–US, MS Word, MS Excel, Visual studio 2008, UN–SCAN–IT

Expert in various analytical and numerical techniques, including:

- Close–coupling Method
- Coupled Channel Propagation
- Crank–Nicholson Split Operator Propagation

Experience with experimental setups and electronics including:

- COLTRIMS apparatus
- VMI apparatus
- OPA

- Time–and–position sensitive detectors (delay–line anode, micro channel plates)
- Signal read–out and processing electronics (fast amplifiers, time–to–digital converters, constant fraction discriminators)

Languages: Fluent in Georgian, English, and Russian.

COLLABORATIONS

Collaborated with different groups, including

- J. R. Macdonald Laboratory, Kansas State University, Manhattan, Kansas, USA
- Experimental Atomic Physics Group at the Goethe Universität, Frankfurt, Germany
- Experimental Atomic Physics Group at Max Planck Institute of Quantum Optics, Garching, Germany
- Prof. Christine Aikens, Theoretical Chemistry Group at Kansas State University, Manhattan, Kansas, USA

AFFILIATIONS

American Physical Society (APS) (since Spring 2009)

PROFESSIONAL ACTIVITIES

Journal Referee: The European Physical Journal D

TEACHING

University of Mary Washington

August 2016 – present

General Physics 2(PHYS 102)

January 2017 – May 2017

- Approximately 25 students (physics for non-science majors)
- Responsibilities: Leading lectures and labs, answering homework questions, writing and grading quizzes, and lab write-ups.
- Content: electromagnetism, optics, atomic, and nuclear physics.
- Textbooks: lab manual (written in–house); “Physics Fundamentals” by Coletta.

University Physics 2(PHYS 106)

- Approximately 25 students (physics, science, and engineering majors)
- Responsibilities: Leading lectures and labs, answering homework questions, writing and grading quizzes, and lab write-ups.
- Content: Electromagnetism, optics, atomic, and nuclear physics.
- Textbooks: lab manual (written in–house); “Fundamentals of Physics” by Halliday, Resnick, and Walker.

General Physics 1(PHYS 101)

August 2016 – December 2016

- Approximately 25 students (physics for non-science majors)
- Responsibilities: Leading lectures and labs, answering homework questions, writing and grading quizzes, and lab write-ups.
- Content: mechanics, waves, fluids, thermodynamics.
- Textbooks: lab manual (written in–house); “Physics Fundamentals” by Coletta.

University Physics 1(PHYS 105)

- Approximately 25 students (physics, science, and engineering majors)

- Responsibilities: Leading lectures and labs, answering homework questions, writing and grading quizzes, and lab write-ups.
- Content: mechanics, waves, fluids, thermodynamics.
- Textbooks: lab manual (written in-house); “Fundamentals of Physics” by Halliday, Resnick, and Walker.

Kansas State University

August 2015 – August 2016

Engineering Physics I (PHYS 213) Studio Lead Instructor

- Approximately 40 students (physics, science, and engineering majors)
- Responsibilities: answering homework questions, writing and grading quizzes, grading homework, and relating lab activities to lecture material.
- Content: mechanics, waves, fluids, thermodynamics.
- Textbooks: lab manual (written in-house); “Fundamentals of Physics” by Halliday, Resnick, and Walker.

General Physics 1(PHYS 113) Lecturer

- Approximately 45 students (non-physics or science majors)
- Responsibilities: Preparing and designing lectures, exams, homework and quizzes.
- Content: mechanics, waves, fluids, thermodynamics.
- Textbooks: “Physics: Principles with Applications” by Giancoli.

Kansas State University

June – August 2015

General Physics 1(PHYS 113) Lecturer

Northwest Missouri State University

November 2013 – May 2015

Mentored undergraduate students

- Dylan Anstine – “Photoionization of C₆₀”, Spring 2014
“Photoionization of noble gas atoms confined in C₂₄₀”– Fall 2014, and Spring 2015
- Shi Kele – “Photoionization of C₂₄₀ a model study”, Spring 2015
- Cody James – “The Effects of Electron Correlation on Energy of Ionization in Argon”, Spring 2014, and Spring 2015
- Tyler Haddock – “Study of Correlation Effects in the Photoionization of Argon”, Fall 2014

Kansas State University

June – August 2013

Mentored REU student (Research Experience for Undergraduates (REU))

- Alex Kramer – “Nuclear Dynamics in Intense Laser Fields” <http://www.phys.ksu.edu/reu/>

Kansas State University

January – May 2013

Engineering Physics I (PHYS 213) Studio Lead Instructor

- Approximately 40 students (physics, science, and engineering majors)
- Responsibilities: answering homework questions, writing and grading quizzes, grading homework, and relating lab activities to lecture material.
- Content: mechanics, waves, fluids, thermodynamics.
- Textbooks: lab manual (written in-house); “University Physics” by Young and Freedman.

Kansas State University

August 2005 – May 2006

Engineering Physics I and II (PHYS 213/214) – Studio Secondary Instructor

- Approximately 40 students (physics, science, and engineering majors)
- Responsibilities: answering homework questions, grading quizzes, homework, and lab write-ups.
- Content: Mechanics, Waves, Fluids, Thermodynamics, Electricity, and Magnetism, Circuits, Optics, and Basic Relativity Principles
- Textbooks: lab manual (written in-house) to supplement “Fundamentals of Physics” by Halliday, Resnick and Walker

I. Javakhishvili Tbilisi State University, Tbilisi Georgia

September – December 2003

Classical mechanics (Lagrangian based) – Lecturer

- Approximately 20 students (physics undergraduates)
- Textbooks: L. Landau, E. Lifshitz, “Mechanics” Vol. 1; I. E. Irodov, “Problems in General Physics”

V. Komarov High School, Tbilisi, Georgia

January – May 2003

Physics teacher

- Approximately 30 students (9–th grade)
- Content: Thermodynamics
- Responsibilities: explaining the concepts, giving and grading homework

Mathematics teacher

- Approximately 25 students (8–th grade)
- Content: Geometry
- Responsibilities: explaining the concepts, giving and grading homework

PUBLICATIONS

1. “Attosecond delay of xenon 4d photoionization at the giant resonance and Cooper minimum” – M. Magrakvelidze, M. E. Madjet, and H. S. Chakraborty **Physical Review A** **94**, 013429 (2016)
2. “Coherence of Auger and inter-Coulombic decay processes in the photoionization of Ar@C₆₀ versus Kr@C₆₀” – M. Magrakvelidze, R. De, M. H. Javani, M. E. Madjet, S. T. Manson, and H. S. Chakraborty, **The European Physical Journal D** **70**, 96 (2016) [arXiv:1512.03377](#)
3. “First prediction of inter-Coulombic decay of C₆₀ inner vacancies through the continuum of confined atoms” – R. De, M. Magrakvelidze, M. E. Madjet, S. Manson, H. Chakraborty, **Journal of Physics B** **49**, 11LT01(2016) [arXiv:1512.07291](#)
4. “Attosecond time delays in the photoionization of noble gas atoms studied in TDLDA” – M. Magrakvelidze, M. E. Madjet, and H. S. Chakraborty, **Journal of Physics: Conference Series** **635**, 092038 (2015)
5. “Auger-intercoulombic hybridized decay resonances in Kr@C₆₀” – M. Magrakvelidze, R. De, S. Manson, H. S. Chakraborty, **Journal of Physics: Conference Series** **635**, 112023 (2015)
6. “Attosecond time delay in the valence photoionization of C₂₄₀ versus C₆₀” – K. Shi, M. Magrakvelidze, D. M. Anstine, M. E. Madjet, and H. S. Chakraborty, **Journal of Physics: Conference Series** **635**, 112025 (2015)
7. “Attosecond time delays in C₆₀ valence photoemissions at the giant plasmon” – T. Barillot, M. Magrakvelidze, V. Lorient, C. Bordas, P-A. Hervieux, M. Gisselbrecht, P. Johnsson, J. Laksman, E. P. Mansson, S. Sorensen, S. E. Canton, J. M. Dahlström, G. Dixit, M. E. Madjet, F. Lépine, H. S. Chakraborty **Journal of Physics: Conference Series** **635**, 112074 (2015)
8. “Attosecond time delay in valence photoionization and photorecombination of argon: a TDLDA study” – M. Magrakvelidze, M. E. Madjet, G. Dixit, M. Ivanov, and H. S. Chakraborty, **Physical Review A** **91**, 063415 (2015) [arXiv:1505.01058](#)
9. “Fullerene photoemission time delay explores molecular cavity in attoseconds” – M. Magrakvelidze, D. M. Anstine, G. Dixit, M. E. Madjet, H. S. Chakraborty, **Physical Review A** **91**, 053407 (2015) [arXiv:1409.2910v1](#)
10. “Space asymmetry and time delay in tandem from giant plasmon in C₆₀ photoemission” – T. Barillot, C. Cauchy, P-A. Hervieux, M. Gisselbrecht, S. E. Canton, P. Johnsson, J. Laksman, E. P. Mansson, J. M. Dahlström, M. Magrakvelidze, G. Dixit, M. E. Madjet, H. S. Chakraborty, E. Suraud, P.M. Dinh, P. Wopperer, K. Hansen, V. Lorient, C. Bordas, S. Sorensen, and F. Lépine, **Physical Review A** **91**, 033413 (2015)
11. “Complementary Imaging of the Nuclear Dynamics in Laser-Excited Diatomic Molecular Ions in the Time and Frequency Domains” – M. Magrakvelidze, A. Kramer, K. Bartschat, and U. Thumm, **Journal of Physics B** **47**, 124003 (2014)
12. “Dissociation dynamics of noble gas dimers in intense two-color IR laser fields” – M. Magrakvelidze and U. Thumm, **Physical Review A** **88**, 013413 (2013)
13. “Electron-nuclear energy sharing in above threshold multiphoton dissociative ionization of H₂” – J. Wu, M. Kunitski, M. Pitzer, F. Trinter, L. Ph. H. Schmidt, T. Jahnke, M. Magrakvelidze, B. D. Esry, L. B. Madsen, U. Thumm, and R. Dörner, **Physical Review Letters** **111**, 023002 (2013)
14. “Attosecond timing of asymmetric chemical bond breaking” – J. Wu, M. Magrakvelidze, L. Ph. H. Schmidt, M. Kunitski, T. Pfeifer, M. Schöffler, M. Pitzer, M. Richter, S. Voss, H. Sann, H. Kim, T. Jahnke, A. Czasch, U. Thumm, and R. Dörner, **Nature Communications** **4**, 2177 (2013)
15. “Steering the nuclear motion in singly ionized argon dimers with mutually detuned laser pulses” – J. Wu, M. Magrakvelidze, A. Vredenburg, L. Ph. H. Schmidt, T. Jahnke, A. Czasch, R. Dörner, and U. Thumm, **Physical Review Letters** **110**, 033005 (2013)
16. “Dissociation dynamics of diatomic molecules in intense laser fields: a scheme for the selection of relevant adiabatic potential curves” – M. Magrakvelidze, C. M. Aikens, and U. Thumm, **Physical Review A** **86**, 023402 (2012)

17. **“Dissociation dynamics of O_2^+ in intense laser fields”** – M. Magrakvelidze, S. De, C. L. Cocke, I. Ben–Itzhak, and U. Thumm, **Journal of Physics: Conference Series 388**, 032079 (2012)
18. **“Time– and frequency–dependent analysis of the nuclear dynamics in laser–excited diatomic molecular ions”** – M. Magrakvelidze and U. Thumm, **Journal of Physics: Conference Series 388** 022080 (2012)
19. **“Tracing nuclear wave–packet dynamics in singly and doubly charged states of N_2 and O_2 with XUV pump – XUV probe experiments”** – M. Magrakvelidze, O. Herrwerth, Y.H. Jiang, A. Rudenko, M. Kurka, L. Foucar, K.U. Kühnel, M. Kübel, N. G. Johnson, C.D. Schröter, S. Düsterer, R. Treusch, M. Lezius, I. Ben–Itzhak, R. Moshhammer, J. Ullrich, M.F. Kling, and U. Thumm, **Physical Review A 86**, 013415 (2012)
20. **“Following dynamic nuclear wave packets in N_2 , O_2 , and CO with few–cycle infrared pulses”** – S. De, M. Magrakvelidze, I. A. Bocharova, D. Ray, W. Cao, I. Znakovskaya, H. Li, Z. Wang, G. Laurent, U. Thumm, M. F. Kling, I. V. Litvinyuk, I. Ben– Itzhak, and C. L. Cocke, **Physical Review A 84**, 043410 (2011)
21. **“Vibrationally resolved structure in O_2^+ dissociation induced by intense ultrashort laser pulses”** – M. Zohrabi, J. McKenna, B. Gaire, N. G. Johnson, K. D. Carnes, S. De, I. A. Bocharova, M. Magrakvelidze, D. Ray, I. V. Litvinyuk, C. L. Cocke, and I. Ben–Itzhak, **Physical Review A 83**, 053405 (2011)
22. **“Tracking nuclear wave–packet dynamics in molecular oxygen ions with few–cycle infrared laser pulses”** – S. De, I. A. Bocharova, M. Magrakvelidze, D. Ray, W. Cao, B. Bergues, U. Thumm, M. F. Kling, I. Litvinyuk and C. L. Cocke, **Physical Review A 82**, 013408 (2010)
23. **“IR–assisted ionization of He by attosecond XUV radiation”** – P. Ranitovic, X.–M. Tong, B. Gramkow, S. De, B. DePaola, K. P. Singh, W. Cao, M. Magrakvelidze, D. Ray, I. Bocharova, H. Mashiko, E. Gagnon, A. Sandhu, M. M. Murnane, H. C. Kapteyn, I. V. Litvinyuk and C. L. Cocke, **New Journal of Physics 12**, 013008 (2010).
24. **“Angular dependence of the strong–field ionization measured in randomly oriented hydrogen molecules”** – M. Magrakvelidze, F. He, S. De, I. Bocharova, D. Ray, U. Thumm, and I. V. Litvinyuk, **Physical Review A 79**, 033408 (2009)
25. **“Quantum–beat imaging of the nuclear dynamics in D_2^+ : Dependence of bond softening and bond hardening on laser intensity, wavelength, and pulse duration”** – Maia Magrakvelidze, Feng He, Thomas Niederhausen, Igor V. Litvinyuk, and Uwe Thumm, **Physical Review A 79**, 033410 (2009)
26. **“Field–free orientation of CO molecules by femtosecond two–color laser fields”** – S. De, I. Znakovskaya, D. Ray, F. Anis, Nora G. Johnson, I. A. Bocharova, M. Magrakvelidze, B. D. Esry, C. L. Cocke, I. V. Litvinyuk and M. F. Kling, **Physical Review Letters 103**, 153002 (2009) (Editor’s choice)
27. **“Dynamic field–free orientation of polar molecules by intense two–color femtosecond laser pulses”** – I. V. Litvinyuk, S. De, D. Ray, Nora G Johnson, I. Bocharova, M. Magrakvelidze, F. Anis, B. D. Esry, L. C., I. Znakovskaya, and M. F. Kling, **Journal of Physics: Conference Series 194**, 032013 (2009)
28. **“IR–assisted ionization of He by attosecond XUV radiation”** – P. Ranitovic, X.–M. Tong, B. Gramkow, S. De, B. DePaola, K. P. Singh, W. Cao, M. Magrakvelidze, D. Ray, I. Bocharova, H. Mashiko, E. Gagnon, A. Sandhu, M. M. Murnane, H. C. Kapteyn, I. V. Litvinyuk, and C. L. Cocke, **Journal of Physics: Conference Series 194** 032036 (2009)
29. **“Quantum–beat imaging of the nuclear dynamics in D_2^+ : Dependence of bond softening(BS) and bond hardening(BH) on laser parameters”** – M. Magrakvelidze, F. He, T. Niederhausen, I. Litvinyuk and U. Thumm, **Journal of Physics: Conference Series 194** 032062 (2009)
30. **“Large–angle electron diffraction structure in laser–induced rescattering from rare gases”** – D. Ray, B. Ulrich, I. Bocharova, C. Maharjan, P. Ranitovic, B. Gramkow, M. Magrakvelidze, S. De, I. V. Litvinyuk, A. T. Le, T. Morishita, C. D. Lin, G. G. Paulus and C. L. Cocke, **Physical Review Letters 100**, 143002 (2008)

31. “Direct Coulomb–explosion imaging of coherent nuclear dynamics induced by few–cycle laser pulses in light and heavy hydrogen”– I. A. Bocharova, H. Mashiko, M. Magrakvelidze, D. Ray, P. Ranitovic, C. L. Cocke, and I. V. Litvinyuk, **Physical Review A** 77, 053407 (2008)
32. “Possibility of Resonance in Spatial Movement of Electrons in GaAs/GA_{1-x}Al_xAs–type Classic Superlattices”, G. Dzamukashvili, M. Magrakvelidze, and Yu. Papava, **Bulletin of the Georgian Academy of Sciences** 170(3), 481 (2004)

BOOK CHAPTER

1. “Many–electron response of gas–phase fullerene materials to ultraviolet and soft X–ray photons” – H. S. Chakraborty and M. Magrakvelidze – World Scientific Review Volume “From atomic to mesoscale: the role of quantum coherence in systems of various complexities” – edited by S. A Malinovskaya and I. Novikova (2015).

CONFERENCES, TALKS AND POSTERS

1. “Time-dependent local density approximation study of iodine photoionization delay” – M. Magrakvelidze, H. S. Chakraborty –48nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP) – Poster (2017).
2. “Attosecond relative delay among xenon 5p, 5s, and 4d photoionization” – M. Magrakvelidze, M. E. Madjet, H. S. Chakraborty –48nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP) – Poster (2017).
3. “Attosecond time delays in the valence photoionization of xenon and iodine at en-ergies degenerate with core emissions “” – M. Magrakvelidze, H. S. Chakraborty – XXX international conference on photonic, electronic and atomic collisions (ICPEAC) – Poster (2017).
4. “Time-dependent local density approximation study of attosecond time delays in the photoionization of xenon” – M. Magrakvelidze, M. E. Madjet, H. S. Chakraborty –47nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP) – Poster (2016).
5. “Coherence of inter-Coulombic (ICD) and electron transfer mediated (ETMD) decay in endofullerenes” – R.De, M. Magrakvelidze, M. E. Madjet, S. T. Manson, H. S. Chakraborty –47nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP) – Poster (2016).
6. “Inter-Coulombic decay (ICD) of endofullerene inner-vacancies in coherence with the Auger decay” – M. Magrakvelidze, R.De, M. Javani, M. E. Madjet, S. T. Manson, H. S. Chakraborty –47nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP) – Poster (2016).
7. “Density Functional study of Wigner–Smith time delays in photoionization and photorecombination of argon” – M. Magrakvelidze, M. E. Madjet, G. Dixit, M. Ivanov, H. S. Chakraborty –46nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP) – Poster (2015).
8. “Attosecond delay and angular asymmetry in plasmonic photoemission of C₆₀” – T. Barillot, C. Cauchy, V. Lorient, C. Bordas, F. Lépine, P–A. Hervieux, M. Gisselbrecht, P. Johnsson, J. Laksman, E. P. Mansson, S. Sorensen, S. E. Canton, J. M. Dahlström, M. Magrakvelidze, H. S. Chakraborty, G. Dixit, M. E. Madjet –46nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP) – Poster (2015).
9. “Photoionization of atoms confined in C₆₀ versus C₂₄₀: Giant enhancement and attosecond delay” – M. Magrakvelidze, K. Shi, D. M. Anstine, H. S. Chakraborty –46nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP) – Poster (2015).
10. “Attosecond study of confinement in photoionization of xenon caged in C₆₀” – M. Magrakvelidze, G. Dixit, M. E. Madjet, H. S. Chakraborty –46nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP) – Poster (2015).

11. **“Fullerene valence photoemission time delay near ionization cavity minima”** – M. Magrakvelidze, G. Dixit, M. E. Madjet, H. S. Chakraborty – *46nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Talk** (2015)
12. **“Auger–intercoulombic hybridized decay resonances in Kr@C₆₀”** – M. Magrakvelidze, R. De, S. Manson, H. S. Chakraborty – *XXIX international conference on photonic, electronic and atomic collisions (ICPEAC)* – **Poster** (2015).
13. **“Attosecond time delays in the photoionization of noble gas atoms studied in TDLDA”** – M. Magrakvelidze, M. E. Madjet, H. S. Chakraborty – *XXIX international conference on photonic, electronic and atomic collisions (ICPEAC)* – **Poster** (2015)
14. **“Attosecond time delay in the valence photoionization of C₂₄₀ versus C₆₀”** – K. Shi, M. Magrakvelidze, D. M. Anstine, M. E. Madjet, H. S. Chakraborty – *XXIX international conference on photonic, electronic and atomic collisions (ICPEAC)* – **Poster** (2015).
15. **“Attosecond time delays in C₆₀ valence photoemissions at the giant plasmon”** – T. Barillot, M. Magrakvelidze, V. Lorient, C. Bordas, P.-A. Hervieux, M. Gisselbrecht, P. Johnsson, J. Laksman, E. P. Mansson, S. Sorensen, S. E. Canton, J. M. Dahlström, G. Dixit, M. E. Madjet, F. Lépine, H. S. Chakraborty – *XXIX international conference on photonic, electronic and atomic collisions (ICPEAC)* – **Poster** (2015).
16. **“Time–dependent local density approximation (TDLDA) studies of quantum phases and time delays in bound–continuum transitions of Kr”** – M. Magrakvelidze, G. Dixit, M. E. Madjet, H. S. Chakraborty – *45nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2014).
17. **“Quantum Phase Shifts and Wigner–Smith time delays in the photoionization versus radiative recombination of Ar valence electrons”** – M. Magrakvelidze, G. Dixit, M. E. Madjet, H. S. Chakraborty – *45nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2014)
18. **“Confinement and cavity effects in time–domain photoionization and recombination of Kr@C₆₀”** – M. Magrakvelidze, G. Dixit, M. E. Madjet, H. S. Chakraborty – *45nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Talk** (2014).
19. **“Complementary imaging of the nuclear dynamics in laser–excited diatomic molecular ions in the time and frequency domains”** – A. Kramer, M. Magrakvelidze, K. Bartschat, and U. Thumm – *45nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2014).
20. **“Time– and Frequency–Dependent Imaging of Nuclear Dynamics in Laser–Excited Noble–Gas Dimers”** – M. Magrakvelidze, A. Kramer, K. Bartschat, U. Thumm – *45nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Talk** (2014).
21. **“Dissociation dynamics of Ar₂⁺ in two–color intense laser fields”** – M. Magrakvelidze, J. Wu, R. Dörner, and U. Thumm – *44nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Talk** (2013).
22. **“Attosecond timing of asymmetric chemical bond breaking”** – M. Magrakvelidze, J. Wu, L. Ph. H. Schmidt, M. Kunitski, T. Pfeifer, M. Schöffler, M. Pitzer, M. Richter, S. Voss, H. Sann, H. Kim, T. Jahnke, A. Czasch, U. Thumm, and R. Dörner – *44nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2013).
23. **“Fragmentation dynamics of noble dimer ions in two–color intense laser fields”** – M. Magrakvelidze, J. Wu, R. Dörner, and U. Thumm – *44nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2013).
24. **“Dissociation dynamics in diatomic molecular ions in intense laser fields”** – M. Magrakvelidze and U. Thumm. *Atomic Physics Seminars, James R. Macdonald Laboratory, Department of Physics, Kansas State University* – **Talk** (2012).
25. **“Quantum mechanical simulation of the dissociation dynamics of O₂⁺ in intense laser fields”** – M. Magrakvelidze, C. M. Aikens, and U. Thumm. *Kansas Physical Chemistry Symposium 2012* – **Poster** (2012).

26. **“Dissociation dynamics of O_2^+ in intense laser fields”** – M. Magrakvelidze, C. M. Aikens, S. De, C. L. Cocke, and U. Thumm. *43rd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2012).
27. **“Fragmentation dynamics of Ar_2^+ dimers in intense laser fields”** – M. Magrakvelidze, J. Wu, R. Dörner, and U. Thumm. *43rd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2012).
28. **“Tracing nuclear wave–packet dynamics in diatomic molecules with XUV pump – XUV probe pulses”** – M. Magrakvelidze, O. Herrwerth, Y.H. Jiang, A. Rudenko, M. Kurka, L. Foucar, K.U. Kühnel, M. Kübel, Nora G. Johnson, C.D. Schröter, S. Düsterer, R. Treusch, M. Lezius, I. Ben–Itzhak, R. Moshhammer, J. Ullrich, U. Thumm, M.F. Kling. *43rd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)*: – **Talk** (2012).
29. **“Quantum mechanical simulation of the dissociation dynamics of O_2^+ in intense laser fields”** – M. Magrakvelidze, C. M. Aikens, S. De, C. L. Cocke, and U. Thumm. *Gordon Research Conferences (GRC)– Multiphoton Processes* – **Poster** (2012).
30. **“Fragmentation dynamics in O_2^{9+} and CO^{9+} molecules in intense laser pulses”** – M. Magrakvelidze, C. M. Aikens, U. Thumm. *Wildcorn meeting* – **Poster** (2011).
31. **“Fragmentation dynamics in O_2^{9+} and CO^{9+} molecules in intense laser pulses”** – M. Magrakvelidze, C. M. Aikens, U. Thumm. *42nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2011).
32. **“Dissociation dynamics of O_2^+ in intense laser fields”** – M. Magrakvelidze, S. De, C. L. Cocke, and U. Thumm. *42nd annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Talk** (2011).
33. **“Time– and frequency–dependent analysis of the nuclear dynamics in laser– excited diatomic molecular ions”** – M. Magrakvelidze and U. Thumm. *XXVII international conference on photonic, electronic and atomic collisions (ICPEAC)* – **Poster** (2011). **“Dissociation dynamics of O_2^+ in intense laser fields”** – M. Magrakvelidze, S. De, C. L. Cocke, I. Ben–Itzhak, and U. Thumm. *XXVII international conference on photonic, electronic and atomic collisions (ICPEAC)* – **Poster** (2011).
34. **“Dissociation Dynamics of O_2^+ in intense laser fields”** – M. Magrakvelidze, S. De, C. L. Cocke, and U. Thumm. *Atomic Physics Seminars, James R. Macdonald Laboratory, Department of Physics, Kansas State University* – **Talk** (2011).
35. **“Quantum mechanical simulation of the dissociation dynamics of the N_2 (N_2^+ , N_2^{++}) and O_2 (O_2^+ , O_2^{++}) molecules”** – M. Magrakvelidze, I. Bocharova, I. V. Litvinyuk, U. Thumm. *41th annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2010).
36. **“Dissociation dynamics of O_2 and N_2 molecules”** – M. Magrakvelidze and U. Thumm. – *Kansas Physical Chemistry Symposium 2010* – **Poster** (2010).
37. **“Quantum mechanical simulation of the dissociation dynamics of O_2 and N_2 molecules”** – M. Magrakvelidze, and U. Thumm. *Atomic Physics Seminars, James R. Macdonald Laboratory, Department of Physics, Kansas State University* – **Talk** (2010).
38. **“Electron–ion momentum coincidence experiments on hydrogen molecules dissociated by intense femtosecond laser pulses”** – M. Magrakvelidze, S. De, F. He, I. Bocharova, D. Ray, U. Thumm, and I. V. Litvinyuk. *40th annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2009).
39. **“Quantum beat imaging of the nuclear dynamics in D_2^+ : Dependence of bond softening and hardening on laser intensity, wavelength, and pulse duration”** – M. Magrakvelidze, F. He, T. Niederhausen, I. V. Litvinyuk, and U. Thumm. *40th annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2009).
40. **“A multi–electrode velocity–map imaging apparatus to study laser induced molecular dynamics”** – S. De, D. Ray, N. G. Johnson, I. Bocharova, M. Magrakvelidze, C. L. Cocke, I. V. Litvinyuk, I. Znakovskaya, A. Wirth, and M. F. Kling. *40th annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2009).

41. **“Control of electron localization in a molecule using XUV and IR pulses”** – K. P. Singh, P. Ranitovic, W. Cao, S. De, D. Ray, S. Chen, I. Bocharova, M. Magrakvelidze, H. Mashiko, F. He, U. Thumm, A. Becker, I. Litvinyuk, and C. L. Cocke. *40th annual meeting of APS: Division of atomic, molecular and optical Physics (DAMOP)* – **Poster** (2009).
42. **“IR-Assisted Ionization of He by Attosecond XUV Radiation”** – P. Ranitovic, X.-M. Tong, B. Gramkow, S. De, B. DePaola, K. P. Singh, W. Cao, M. Magrakvelidze, D. Ray, I. Bocharova, H. Mashiko, E. Gagnon, A. Sandhu, M. M. Murnane, H. C. Kapteyn, I. V. Litvinyuk and C. L. Cocke. *XXVI international conference on photonic, electronic and atomic collisions (ICPEAC)*–**Poster** (2009).
43. **“Quantum-beat imaging of the nuclear dynamics in D₂⁺: Dependence of bond softening (BS) and bond hardening (BH) on laser parameters”** – M. Magrakvelidze, F. He, T. Niederhausen, I. Litvinyuk, and U. Thumm. *XXVI international conference on photonic, electronic and atomic collisions (ICPEAC)*–**Poster** (2009).
44. **“Dynamic field-free orientation of polar molecules by intense two-color femtosecond laser pulses”**– I. V. Litvinyuk, S. De, D. Ray, N. G. Johnson, I. Bocharova, M. Magrakvelidze, F. Anis, B.D. Esry, C. L. Cocke, I. Znakovskaya, and M. F. Kling. *XXVI international conference on photonic, electronic and atomic collisions (ICPEAC)*–**Poster** (2009).
45. **“Angular dependence of the strong-field ionization in randomly oriented hydrogen molecules”** – M. Magrakvelidze, F. He, S. De, I. Bocharova, D. Ray, U. Thumm and I.V. Litvinyuk *Second international conference on attosecond physics (ATTO-09)* – **Poster** (2009).
46. **“Time-resolved laser Coulomb explosion imaging of ultrafast molecular dynamics induced in N₂, O₂ and CO by interaction with intense laser field”** – I. Bocharova, S. De, D. Ray, Maia Magrakvelidze, U. Thumm, C. L. Cocke, A. Alnaser, and I. V Litvinyuk. *Second international conference on attosecond physics (ATTO-09)* – **Poster** (2009).
47. **“Dynamic field-free orientation of polar molecules by intense two-color femtosecond laser pulses”** – S. De, D. Ray, I. Znakovskaya, F. Anis, N. G. Johnson, I. Bocharova, M. Magrakvelidze, B. D. Esry, C. L. Cocke, M. F. Kling and I. V. Litvinyuk. *Second international conference on attosecond physics (ATTO-09)* – **Poster** (2009).
48. **“Electron-ion momentum coincidence experiments on hydrogen molecules dissociated by intense laser pulses”** – M. Magrakvelidze, and I. V. Litvinyuk. –*Atomic Physics Seminars, James R. Macdonald Laboratory, Department of Physics, Kansas State University* –**Talk** (2009).
49. **“Strong Field molecular imaging”** – M. Magrakvelidze, and I. V. Litvinyuk. – *Atomic Physics Seminars, James R. Macdonald Laboratory, Department of Physics, Kansas State University* – **Talk** (2007).

Before 2005

1. **“65th Student Conference (2005)”** – Tbilisi Ivane Javakhishvili State University, Tbilisi, Georgia. –*Talk*
2. **Soros Student and Post-graduate Students Conference (2004)** – organized by International Soros Science education programs Foundation –*Talk*.
3. **Soros Student and Post-graduate Students Conference (2003)** – organized by International Soros Science education programs Foundation – *Talk*.
4. **“63rd Student Conference (2003)”** – Tbilisi Ivane Javakhishvili State University, Tbilisi, Georgia. –*Talk*
5. **“61st Student Conference (2001)”** – Tbilisi Ivane Javakhishvili State University, Tbilisi, Georgia. –*Talk*

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