

Georgios Emm. Katsoprinakis

Contact: Tel: +30 6975 122080 / Email: gkatsop@uoc.gr

Studies:

2000 B.Sc. Physics University of Athens

B.Sc. thesis: I. Quantum Electrodynamics: Higher order corrections to the scattering matrix and a calculation of the electron self-energy radiative correction
II. General relativity: Introduction to the field and the spherically symmetric Schwarzschild solution

2002 20-month mandatory military service in the Greek army

2006 M.Sc. Physics University of Crete

M.Sc. thesis: A proposal for a new high-bandwidth, E.I.T.-enhanced atomic magnetometer

2010 Ph.D. Physics University of Crete

Ph.D. thesis: Spin Noise, Decoherence and Magnetic effects in Alkali Atoms and Biomolecules

2010 – present Post-doctoral research associate I.E.S.L. / Fo.R.T.H.

Interests:

- Atomic and molecular physics
- CW and pulsed laser spectroscopy and polarimetry
- Lab automation (LabView[®], Arduino[®], C#)
- Physical simulations (Mathematica[®], Python[®])
- 3D modelling (Autodesk Inventor[®])

Teaching experience:

2002-2009 Assistant professor in undergraduate laboratory classes (optics and advanced physics) and undergraduate courses in mathematics (analysis, algebra), physics (mechanics, optics, electromagnetism) and programming (fortran).

Publications:

- High steady-state column density of I(2P_{3/2}) atoms from I₂ photodissociation at 532 nm: Towards parity non-conservation measurements**
Katsoprinakis, Georgios E.; Chatzidrosos G.; Kyriotakis J. A.; Stratakis, E.; Rakitzis, T. P.
SCIENTIFIC REPORTS Volume: 6 / Article Number: 33261 / Published: SEP 15 2016
- Chiral cavity ring down polarimetry: Chirality and magnetometry measurements using signal reversals**
Bougas, Lykourgos; Sofikitis, Dimitris; Katsoprinakis, Georgios E.; et al.
THE JOURNAL OF CHEMICAL PHYSICS Volume: 143 / Article Number: 104202 / Published: SEP 9 2015
- Microsecond-resolved SDR-based cavity ring down ellipsometry**
Sofikitis, Dimitris; Spiliotis, Alexandros K.; Stamataki, Katerina; Katsoprinakis, Georgios E.; et al.
APPLIED OPTICS Volume: 54 (Issue 18) / Pages: 5861-5865 / Published: JUN 20 2015
- Evanescent-wave and ambient chiral sensing by signal-reversing cavity ringdown polarimetry**

Sofikitis, Dimitris; Bougas, Lykourgos; Katsoprinakis, Georgios E.; et al.
NATURE Volume: **514** (Issue 7520) / Pages: 76-+ / Published: OCT 2 **2014**

5. Fundamentals of cavity-enhanced polarimetry for parity-nonconserving optical rotation measurements: Application to Xe, Hg, and I

Bougas, L.; Katsoprinakis G. E.; von Klitzing, W.; et al.
PHYSICAL REVIEW A Volume: **89** (5) / Article Number: 052127 / Published: MAY 21 **2014**

6. Stark shift and parity nonconservation for near-degenerate states of xenon

Bougas, L.; Katsoprinakis G. E.; Sofikitis, D.; et al.
PHYSICAL REVIEW A Volume: **89** (4) / Article Number: 042513 / Published: APR 29 **2014**

7. Multi-pass spectroscopic ellipsometry

Stehle, Jean-Louis; Samartzis, Peter C.; Stamataki, Katerina; Piel, Jean-Philippe; Katsoprinakis, Georgios E.; Papadakis, Vasilis; Schimowski, Xavier; Rakitzis, Peter T.; Loppinet, Benoit
THIN SOLID FILMS Volume: **555** / Pages: 143-147 / Published: MAR 31 **2014**

8. Calculation of parity-nonconserving optical rotation in iodine at 1315 nm

Katsoprinakis G. E.; Bougas, L.; Rakitzis, T. P.; et al.
PHYSICAL REVIEW A Volume: **87** (4) / Article Number: 040101 / Published: APR 1 **2013**

9. Cavity-Enhanced Parity-Nonconserving Optical Rotation in Metastable Xe and Hg

Bougas, L.; Katsoprinakis G. E.; von Klitzing, W.; et al.
PHYSICAL REVIEW LETTERS Volume: **108** (21) / Article Num.: 210801 / Published: MAY 25 **2012**

10. Coherent triplet excitation suppresses the heading error of the avian compass

Katsoprinakis G. E.; Dellis, A. T.; Kominis, I. K.
NEW JOURNAL OF PHYSICS Volume: **12** Article Number: 085016 Published: AUG 27 **2010**

11. Quantum random number generator based on spin noise

Katsoprinakis G. E.; Polis, M.; Tavernarakis, A.; et al.
PHYSICAL REVIEW A Volume: **77** (5) Article Number: 054101 Part: B Published: MAY **2008**

12. Measurement of transverse spin-relaxation rates in a rubidium vapor by use of spin-noise spectroscopy

Katsoprinakis G. E.; Dellis, A. T.; Kominis, I. K.
PHYSICAL REVIEW A Volume: **75** (4) Article Number: 042502 Published: APR **2007**

13. High frequency atomic magnetometer by use of electromagnetically induced transparency

Katsoprinakis G. E.; Petrosyan, D.; Kominis, I. K.
PHYSICAL REVIEW LETTERS Volume: **97** (23) Article Number: 230801 Published: DEC 8 **2006**

Posters:

2007 ECAMP IX, Hersonissos, Greece,

“Experimental demonstration of the fluctuation dissipation theorem in a thermal rubidium vapor”,
 G.E. Katsoprinakis, A.T. Dellis, M. Polis, I.K. Kominis,

2012 EWSE, Leipzig, Germany

“Development of a new sensitive SE using ‘white laser’ and multiple pass cavity”,
 X. Schimowski, J.-P. Piel, J.-L. Stehle, P. Samartzis, K. Stamataki, V. Papadakis, G. E. Katsoprinakis, B. Loppinet,
 T. P. Rakitzis

2013 ICOLS, Berkeley, U.S.A.

"A cavity-enhanced polarimeter with signal reversals: towards Atomic Parity Violation in Hg, Xe and I",
 L. Bougas, G. E. Katsoprinakis, W. von Klitzing, and T. P. Rakitzis

2013 International Symposium on Molecular Spectroscopy 68th Meeting, Ohio, U.S.A.

"Chiral Cavity Ring-Down: Absolute Measurement of Optical Rotation in Gases and Liquids with Signal Reversals",

L. Bougas, G. E. Katsoprinakis, T. P. Rakitzis

2015 Instrumental Methods and Analysis (IMA), Kalamata, Greece

"New methods for ultrasensitive measurements of chirality",

A. K. Spiliotis, D. Sofikitis, G. E. Katsoprinakis, P. Samartzis, B. Loppinet, T. P. Rakitzis

2016 Field Laser Applications in Industry and Research (FLAIR), Aix-les-Bains, France

"Cavity-Based methods for precise, real-time refractive index and chirality measurements",

A. K. Spiliotis, D. Sofikitis, G. E. Katsoprinakis, and T. P. Rakitzis