# Leonidas Mouchliadis

*Curriculum Vitae*

## Education

2018 **MSc in Philosophy**,University of Crete, Greece

2008 **PhD in Physics**, Cardiff University, UK

2005 **MSc in Theoretical Physics**, University of Crete, Greece

2003 **BSc in Physics**, University of Crete, Greece

## Professional Experience

2017–present **Research Associate**, Institute of Electronic Structure and Laser – FORTH, Greece.

2013–2016 **Research Scholar**, Crete Center for Quantum Complexity and Nanotechnology, Greece.

2012–2013 **Research Associate**, University of Crete, Greece.

2011 **ESF Research Visitor**, University of Southampton, UK.

2010–2011 **Marie Curie Research Fellow**, IESL – FORTH, Greece.

2008–2010 **WIMCS Research Fellow**, Cardiff University, UK.

## Publications

### Peer-reviewed journals/edited books

- Twist angle mapping in layered $WS_2$ by polarization-resolved second harmonic generation, S. Psilodimitrakopoulos, L. Mouchliadis, I. Paradisanos, G. Kourmoulakis, A. Lemonis, G. Kioseoglou and E. Stratakis, Scientific Reports 9, 14285 (2019).
- Imaging the crystal orientation of 2D transition metal dichalcogenides using polarization-resolved second-harmonic generation, G. M. Maragkakis, S. Psilodimitrakopoulos, L. Mouchliadis, A. Lemonis, G. Kioseoglou and E. Stratakis, Optoelectronic Advances (2019).
- Ultrahigh–resolution nonlinear optical imaging of armchair orientation in 2D transition metal dichalcogenides, S. Psilodimitrakopoulos, L. Mouchliadis, I. Paradisanos, A. Lemonis, G. Kioseoglou and E. Stratakis, Light: Science & Applications 7, 18005 (2018).
- Non–Separation of Electronic and Structural Orders in a Persisting Charge Density Wave, M. Porer, U. Leierseder, J.-M. Menard, H. Dachraoui, L. Mouchliadis, I. E. Perakis, U. Heinzmann, J. Demsar, K. Rossnagel and R. Huber, Nature Materials 13, 857 (2014).
- Quantum Femtosecond Magnetism in a Strongly Correlated Manganese Oxide, T. Li, A. Patz, L. Mouchliadis, J. Yan, T. A. Lograsso, I. E. Perakis and J. Wang, Ultrafast Magnetism I 159, 218 Springer International Publishing (2014).
- Femtosecond Magneto-Optics: Quantum Spin Switching, J. Wang, I. E. Perakis, T. Li, A. Patz,

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J. Yan, L. Mouchliadis, T. A. Lograsso, Optics and Photonics News 24, 54 (2013).

- Femtosecond Switching of Magnetism via Strongly Correlated Spin-Charge Quantum Excitations, T. Li, A. Patz, L. Mouchliadis, J. Yan, T. A. Lograsso, I. E. Perakis and J. Wang, Nature 496, 69 (2013).
- Direct and indirect excitons in semiconductor coupled quantum wells in an applied electric field, K. Sivalertporn, L. Mouchliadis, A. L. Ivanov, R. Philp and E. A. Muljarov, Physical Review B 85, 045207 (2012).
- Ultrafast polariton population build-up mediated by molecular phonons in organic microcavities, N. Somaschi, L. Mouchliadis, D. Coles, I. E. Perakis, P. G. Lagoudakis, D. G. Lidzey and P. G. Savvidis, Applied Physics Letters 99, 143303 (2011).
- Bragg polaritons: Strong coupling and amplification in an unfolded microcavity, A. Askitopoulos, L. Mouchliadis, I. Iorsh, G. Christmann, J. J. Baumberg, M. A. Kaliteevski, Z. Hatzopoulos and P. G. Savvidis, Physical Review Letters 106, 076401 (2011).
- Comment on "Photoluminescence ring formation in coupled quantum wells: excitonic versus ambipolar diffusion", A. L. Ivanov, E. A. Muljarov, L. Mouchliadis and R. Zimmermann, Physical Review Letters 104, 179701 (2010).
- Kinetics of exciton inner photoluminescence ring in GaAs quantum wells, A. T. Hammack, L. V. Butov, J. Wilkes, L. Mouchliadis, E. A. Muljarov, A. L. Ivanov and A. C. Gossard, Physical Review B 80, 155331 (2009).
- Microcavity polariton-like dispersion doublet in resonant Bragg gratings, F. Biancalana, L. Mouchliadis, C. Creatore, S. Osborne, and W. Langbein, Physical Review B 80, 121306(R) (2009).
- Indirect excitons in elevated traps, A. A. High, A. T. Hammack, L. V. Butov, L. Mouchliadis, A. L. Ivanov, M. Hanson and A. C. Gossard, Nano Letters 9, 2094 (2009).
- First-order spatial coherence of excitons in planar nanostructures: a k-filtering effect, L. Mouchliadis and A. L. Ivanov, Physical Review B 78, 033306 (2008).
- Kinetics of indirect excitons in an optically induced trap in GaAs quantum wells, A. T. Hammack, L. V. Butov, L. Mouchliadis, A. L. Ivanov and A. C. Gossard, Physical Review B 76, 193308 (2007).

### Conference proceedings

- Femtosecond terahertz dynamics of cooperative transitions: from charge density waves to polariton condensates, M. Porer, J.-M. Menard, C. Poellmann, H. Dachraoui, L. Mouchliadis, I. E. Perakis, U. Heinzmann, J. Demsar, K. Rossnagel, E. Galopin, A. Lemaitre, A. Amo, J. Bloch and R. Huber, SPIE Proceedings 9835 (2016).
- Ultrafast Dissection of Excitonic and Structural Orders in a Persisting Charge Density Wave, M. Porer, U. Leierseder, J.-M. Menard, H. Dachraoui, L. Mouchliadis, I. E. Perakis, U. Heinzmann, J. Demsar, K. Rossnagel and R. Huber, CLEO/QELS: FTu1B.3 (2015).
- Speeding up of transient carrier relaxation during non-equilibrium photoinduced phase transition in manganites, T. Li, A. Patz, J. Yan, T. A. Lograsso, L. Mouchliadis, I. E. Perakis and J. Wang, CLEO/QELS: FS, QW3D.5 (2013).
- Phonon-driven Resonantly-Enhanced Polariton Luminescence in Organic Microcavities, N. Somaschi, L. Mouchliadis, D. Coles, I. E. Perakis, P. G. Lagoudakis, D. G. Lidzey and P. G. Savvidis, SPIE Proceedings 8260 (2012).
- Theoretical study of indirect excitons' lifetime in coupled AlGaN/GaN quantum wells in the presence of an electrostatic trap, A. Asgari, S. Safa and L. Mouchliadis, Superlattices and Microstructures 49, 487 (2011).
- Spatially resolved kinetics and spatially separated pump-probe studies of transport and thermaliza-

tion of indirect excitons A. T. Hammack, L. V. Butov, J. Wilkes, L. Mouchliadis, E. A. Muljarov, A. L. Ivanov and A. C. Gossard, CLEO/QELS, Art. No. 5500573 (2010).

- Exciton polaritons in Bragg gratings, C. Creatore, L. Mouchliadis, F. Biancalana, S. Osborne, and W. Langbein, Journal of Physics: Conference Series $210$, 012034 (2010).
- Dynamics of the inner ring in photoluminescence of GaAs/AlGaAs indirect excitons, J. Wilkes, L. Mouchliadis, E. A. Muljarov, A. L. Ivanov, A. T. Hammack, L. V. Butov, and A. C. Gossard, Journal of Physics: Conference Series $210$, 012050 (2010).
- First-order spatial coherence of indirect excitons in coupled quantum wells, L. Mouchliadis and A. L. Ivanov, Physica Status Solidi $6$, 524 (2009).
- Anti-trapping of indirect excitons by a current filament, L. Mouchliadis and A. L. Ivanov, Journal of Physics: Condensed Matter $19$, 295215 (2007).
- Current induced anti-traps for indirect excitons, L. Mouchliadis, C. W. Lai and A. L. Ivanov, Superlattices and Microstructures $41$, 392 (2007).

### Submitted/In Preparation

- Modelling ultrafast non-equilibrium carrier dynamics and relaxation processes upon irradiation of hexagonal Silicon-Carbide with femtosecond laser pulses G. D. Tsibidis, L. Mouchliadis, M.Pedio and E. Stratakis, submitted to Physical Review B, (2019).
- Temperature dependent valley polarization in $WS_2$ heterostructures, I. Paradisanos, K. McCreary, D. Adinehloo, L. Mouchliadis, J. Robinson, H.-J. Chuang, A. Hanbicki, V. Perebeinos, B. Jonker, E. Stratakis and G. Kioseoglou,submitted to 2D Materials (2019).
- Imaging of valley polarization via second harmonic generation, L. Mouchliadis, S. Psilodimitrakopoulos, I. Demeridou, G. M. Maragkakis, G. Kourmoulakis, A. Lemonis, G. Kioseoglou and E. Stratakis

## Conference Presentations

- September 2019, 35th Panhellenic Conference on Solid State Physics and Materials Science, Patras, Greece.
- September 2018, Nano-Bio Conference, Heraklion, Greece.
- September 2017, Graphene Week, Athens, Greece.
- May 2013, 14th International Conference on Physics of Light-Matter Coupling in Nanostructures, Crete, Greece. (Invited)
- February 2011, 5th International Conference on Spontaneous Coherence in Excitonic Systems, Lausanne, Switzerland.
- September 2009, 11th International Conference on Optics of Excitons in Confined Systems, Madrid, Spain.
- September 2009, 25th Panhellenic Conference on Solid State Physics and Materials Science, Thessaloniki, Greece.
- September 2008, 3rd International Conference on Spontaneous Coherence in Exciton Systems, Cambridge, UK.
- May 2008, 9th International Conference on Nonlinear Optics and Excitation Kinetics in Semiconductors, Klink/Muritz, Germany.
- April 2007, Condensed Matter and Materials Physics annual conference, Leicester, UK.
- October 2006, 6th International Conference on Physics of Light-Matter Coupling in Nanostructures, Magdeburg, Germany.
- September 2005, 2nd International Conference on Spontaneous Coherence in Exciton Systems and 9th International Conference on Optics of Excitons in Confined Systems, Southampton, UK.

## Educational Experience

- 2011-2013 Electrodynamics: Teaching Assistant, Physics Department, University of Crete.
- 2008-2010 Quantum Theory of Solids: Project Supervisor, School of Physics and Astronomy, Cardiff University.
- 2005-2008 Statistical Mechanics: Teaching Assistant, School of Physics and Astronomy, Cardiff University

## Refereeing Experience

- Physical Review Letters
- Physical Review B
- Physical Review Applied
- Journal of Physics: Condensed Matter
- New Journal of Physics

## Computer Skills

- Operating systems: Linux, Unix, Windows
- Programming languages: Python, Matlab, Mathematica, Fortran
- Ab initio calculations: Quantum Espresso, Yambo
- Other programs: LaTeX, Origin, CorelDraw, Prezi, Dreamweaver

## Foreign Languages

- English: Certificate of Proficiency
- German: Zertifikat Deutsch als Fremdsprache
- Italian: Fluent
- Spanish: Currently studying

## References

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