

Curriculum vitae

Name: Eli Eliyahu Levy

Date and place of birth: March 14, 1976, Ramla, Israel.

Citizenship: Israeli

Status: Married+2

Address:

Professional: Department of R&D, Rafael Advanced Defense Systems Ltd., POB 2250, Haifa, 3102102 Israel. Tel. 972-4-7892312. E-mail: elilevy@rafael.co.il

Personal: 38 Harophe street, 3436738, Haifa, Israel.

Academic degrees:

BA in physics cum laude, Technion, 1998

MSc in physics cum laude, Tel-Aviv University, 2008

PhD in physics (under the supervision of Prof. Eric Akkermans), Technion, 2016

Employment History:

Senior researcher, R&D department, Rafael Ltd., Israel (2004 – present day)

Senior officer in a highly technical Military unit, IDF, Israel (1998 – 2004 active duty, 2004-present day reserves)

Research interests:

Experimental condensed matter and AMO physics:

- Topological properties of non-periodic systems
- Wave propagation, static and dynamical Casimir effects in non-periodic systems

Research grants:

PAZY 2017-2020, topological properties of quasicrystals and quasiperiodic distributions

Visiting positions:

1. Le laboratoire Kastler Brossel, College de France, Paris, Nov.-Dec. 2015.
2. Université Côte d'Azur, Nice, Aug.-Sep. 2016

Published Theses:

1. Levy, E., MSc thesis (2007). Measurement of optical properties of metals as a function of temperature, school of physics and astronomy, faculty of exact sciences, Tel-Aviv University.
2. Levy, E., PhD thesis (2016). Topological properties of qiasi periodic chains: Structural and spectral analysis, department of physics, Technion – Israel institute of technology.

Published papers:

1. Levy, E., Peles, D., Opher-Lipson, M., and Lipson, S. G. (1999). Modulation transfer function of a lens measured with a random target method. *Applied Optics*, 38(4), 679–683.
2. Akkermans, E., Dunne, G., and Levy, E. (2013). Wave propagation in one-dimension: Methods and applications to complex and fractal structures. In L. Dal Negro (Ed.), *Optics of Aperiodic Structures: Fundamentals and Device Applications*. Pan Stanford.
doi:10.4032/9789814463096

3. Baboux, F.*, Levy, E.*, *et. al.* (2017). Measuring topological invariants from generalized edge states in polaritonic quasicrystals. *Phys. Rev. B.* (95), 161114(R).
4. Levy, E. and Akkermans, E. (2017), Topological bound states in 1D: An effective Fabry-Perot model, *Eur. Phys. J. Special Topics* (226), 1563-1582.

Submitted papers:

1. Levy, E., Barak, A., Fisher A., and Akkermans, E., Topological properties of Fibonacci quasicrystals: A scattering analysis of Chern numbers, under review in PRL, arXiv:1509.04028
2. Dureau, A.*, Levy, E. *, Bosch Aguilera, M., Bouganne R., Akkermans, E., Gerbier, F., and Beugnon, J. Direct measurement of Chern numbers in the diffraction pattern of a Fibonacci chain, under review in PRL, arXiv: 1607.00901

Papers in preparation:

1. Levy, E., Kuhl, U., Mortessagne, F., and Akkermans, E., Scattering measurement of topological properties of tilings
2. Gitelman, D., Don, Y., Levy, E., and Akkermans, E., Topological crystallography of tilings

Talks:

Organization of conferences

1. Mini-colloquium MQ6: Topological properties of quasi crystalline structures, JMC15 condensed matter physics meeting of the French physics society (August 2016, Bordeaux)

Invited conference talks

1. Topological Properties of Quasicrystals: A Scattering Analysis, Session SP25: Topological photonics, META16 - the 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics (July 2016, Malaga)
2. Probing Topological Properties of Quasicrystals with Waves, BIRS workshop on photonic topological insulators (pending, September 2017, Banff)
3. The 2nd International Conference on Atomic and Nuclear Physics (declined, November 2017, Las Vegas)
4. The 8th International Conference and Exhibition on Lasers, Optics & Photonics (declined, November 2017, Las Vegas)

Contributed conferences talks

1. Topological properties of Fibonacci quasicrystals : A scattering analysis, in PPNEC2015 From Photonics to Polaritonics – Non-Equilibrium Transport in Complex Media, Photonic Crystals and Disordered Nano-Structures (April 2015, Bad Honnef)
2. Probing Topological Properties of Quasicrystals with Waves, in Mini-colloquium MQ6: Topological properties of quasi crystalline structures, JMC15 condensed matter physics meeting of the French physics society (August 2016, Bordeaux)

Non-conferences talks

1. Topological content in the spectrum of quasiperiodic chains, seminary at the quantum gasses department, Le laboratoire Kastler Brossel, College de France, Paris (April 2015)
2. Scattering measurement of topological edge states in quasiperiodic chains, seminary at the laboratory for solid state physics, Université Paris-Sud, Orsay (April 2015)

3. Measuring Chern numbers in quasicrystals by the scattering of waves, seminary at the quantum gasses department, Le laboratoire Kastler Brossel, College de France, Paris (November 2015)
4. Measuring Chern numbers in quasicrystals by the scattering of waves, seminary at the Université Pierre et Marie Curie, Place Jussieu, Paris (December 2015)
5. Measuring the topological properties of quasicrystals using waves, two seminaries at Parc Valrose, Université Côte d'Azur, Nice (September 2016).
6. Topological quasicrystallography, a seminary at Parc Valrose, Université Côte d'Azur, Nice (pending, September 2017).
7. Five seminaries at the Technion (2012-2017)
8. Four seminaries at Rafael (2012-2016)