AMIT ROTEM
Racah Institute of Physics
The Hebrew University
Jerusalem, Israel

Education

2016– THE HEBREW UNIVERSITY
Direct PhD Track in Physics
Supervisor: Prof. Alex Retzker.

2014–2016 THE HEBREW UNIVERSITY
MSc in Physics.
- Transferred to the direct PhD track.
Supervisor: Prof. Alex Retzker.

2011–2014 HEBREW UNIVERSITY OF JERUSALEM
BSc in Exact Sciences, Physics and Chemistry - Emphasis on Physics.

Academic Positions

2014– Teaching Assistant.
RACACH INSTITUTE OF PHYSICS - THE HEBREW UNIVERSITY

2013–2014 Undergraduate student research assistant, Dr. Lioz Etgar research group.
CASALI INSTITUTE OF APPLIED CHEMISTRY - THE HEBREW UNIVERSITY
- Production and characterization of solar cell.

Research Publications

2019 Limits on Spectral Resolution Measurements by Quantum Probes.
A. Rotem, T. Gefen, S. Oviedo-Casado, J. Prior, S. Schmitt, Y. Burak, L. McGuiness, F. Jelezko, and A. Retzker. Phys. Rev. Lett. 122, 060503 (2019).

2018 Overcoming resolution limits with quantum sensing.
T. Gefen, A. Rotem, A. Retzker. Nat Commun 10, 4992 (2019).

2018 NV center based nano-NMR enhanced by deep learning.
N. Aharon, A. Rotem, L. P. McGuinness, F. Jelezko, A. Retzker, Z. Ringel. Sci Rep 9, 17802 (2019).

2017 Fast Dynamical Decoupling of the Mólmer-Sórensen Entangling Gate.
T. Manovitz, A. Rotem, R. Shaniv, I. Cohen, Y. Shapira, N. Akerman, A. Retzker, R. Ozeri. Phys. Rev. Lett. 119, 220505 (2017).

2016 Refocusing two qubit gate noise for trapped ions by composite pulses.
I. Cohen, A. Rotem, A. Retzker. Phys. Rev.. A 93, 032340 (2016)
I. Cohen and A. Rotem contributed equally to this work.

2015 Temperature dependence of hole conductor free formamidinium lead iodide perovskite based solar cells.
S. Aharon, A. Dymshits, A. Rotem and L. Etgar. Journal of Materials Chemistry A, 2015, 3, 9171–9178.

2014 High voltage in hole conductor free organo metal halide perovskite solar cells.
A. Dymshits, A. Rotem and L. Etgar. Journal of Materials Chemistry A, 2014, 2, 20776-20781.

Submitted Publications (under peer review)

2020 Correlated noise in Brownian motion allows for super resolution.
S. Oviedo-Casado, A. Rotem, R. Nigmatullin, J. Prior, A. Retzker. arXiv:2005.08346.