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Welcome to IPS 2011

Welcome to IPS2011 – the 57th Annual Meeting of the Israel Physical Society.

The program follows the tradition that has evolved in previous meetings. We have two Plenary Sessions, one with the opening lecture and one with the closing lecture, six topical Review Session, nineteen parallel sessions and a poster session.

A significant part of the talks are invited and the list includes not only the plenary and review lectures but also some of the talks opening the parallel sessions.

Many people, whose names appear on various lists in the next few pages contributed to the preparation and to the planning of this meeting. The burden on some was specially high and I want to mention those: Ehud Behar (Technion) who was in charge of the scientific program, Yoram Rozen (Technion) who was in charge of the website and information flow, Yuval Garini (BIU) who help us whenever needed, Israel Ben-Efraim (Technion) in charge of the logistic organization and Liz Yodiom (Technion) in charge of contacts.

I wish you all a fruitful, interesting and pleasant meeting at the beautiful campus of the Technion.

Ilan Riess

Chairperson of IPS 2011

From the President of the IPS

On behalf of the Israel Physical Society (IPS) I welcome us all to the 57th annual General Assembly (2011) held, this year, at the Technion.

The IPS is a voluntary non-profit association which acts to stimulate physics research and education in Israel. Membership is open to all physicists, from Israel and abroad, including students and all those who conduct research and education in physics. This year the IPS will become a member society of the European Physical Society (EPS), which will allow IPS members reduced rates in EPS conferences and subscriptions and eligibility to serving in their committees. There is also a mutual agreement with the American Physical Society (APS), which is also sponsoring our meeting. We are working on expanding further our international connections.

We continue the attempts to revamp the IPS status and activity. Our aim is to make it worthwhile organizations for the benefit of our physics community, following the examples set by the APS and EPS, and adding special features relevant to physics in Israel. In particular we aim at making the IPS website the central source of information for all physics activities in Israel, including seminars, conferences, international visitors and job center for physics students.

We continue the tradition established in the last several years, of awarding the IPS prizes. The IPS prize for a young researcher is awarded to a physicist less than 10 years after the PhD, for special excellence in research, carried out mostly in Israel. This year this prize is awarded jointly to Yoram Dagan (TAU), for his work in experimental condensed matter, and Gilad Perez (WIS), for his work on theoretical high energy physics. The award of 10,000 NS will be divided among them. This year we have decided to reduce the number of IPS prizes for PhD students to two, one for an experimentalist and one for a theorist. The experimental prize went this year to Ori Katz (WIS) for his work on ultra fast optics, while the theory prize went to Yakov Neiman (TAU) for his work in particle physics. Each of the awards carries a prize of 5000NS.

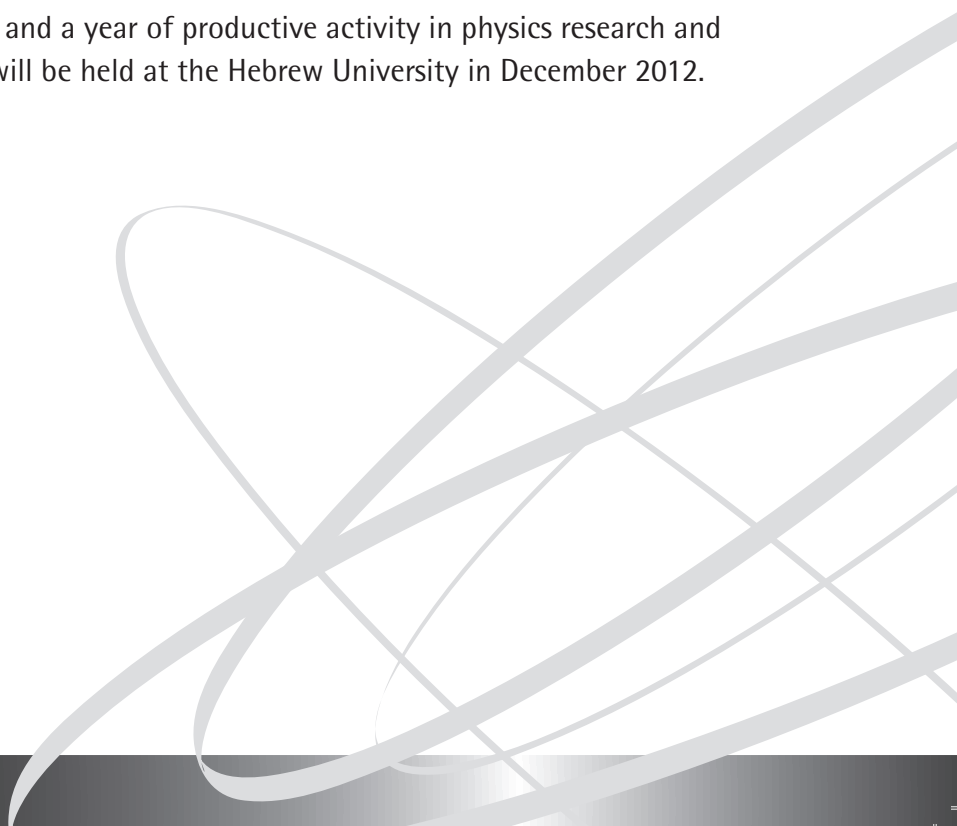
The scientific organizing committee led by Ehud Behar and guided by the IPS council, has put together an exciting program. Following the tradition of recent years, the assembly starts with a plenary session and concludes with a plenary session at the end of the day. This second session will honor Danny Shechtman, whose Nobel award announcement and the recent ceremony in Stockholm have brought physics research into the forefront of public attention and has emphasized the importance of basic research. The program also includes three review sessions, and the parallel sessions are organized along the lines of the APS' March meeting, usually comprising of one or two invited talks followed by contributed talks.

In order to continue the above activities and more, the IPS needs your support. First by becoming a member and paying the annual fees. The registration procedure allows each of us to register and pay online on the IPS website www.israelphysicalsociety.org. In addition, you can make an impact by encouraging all your associates to join the IPS, especially students. But most important would be your contributing ideas for new initiatives or for potential funding sources.

I would like to end by mentioning the tremendous work carried out by the previous IPS president, Avishai Dekel, and the previous treasurer, Israel Mardor, whose terms ended this year. Along with the previous IPS secretary, Dikla Soae, they managed to conclude the long, formal process of registration as a society and balancing our budget. I came into office, along with the new treasurer, Yuval Garini, to find the IPS administrative and financial matters in good order, allowing us now to focus on content rather than bureaucracy.

I wish us all an enjoyable meeting this year, and a year of productive activity in physics research and education. Our 58th IPS General Assembly will be held at the Hebrew University in December 2012.

Yigal Meir,
President of the IPS



Student Prizes

The 2011 IPS Prize for Graduate Students in Experimental Physics is awarded to *Ori Katz*, Weizmann Institute, for his work on ultra fast optic.

The 2011 IPS Prize for Graduate Students in Experimental Physics is awarded to *Yakov Neiman*, Tel-Aviv University, for his work in particle physics

Prizes for Young Scientists

The 2011 IPS prize for a Young Scientist is awarded jointly to *Yoram Dagan*, Tel-Aviv University, for his work in experimental condensed matter and to *Gilad Perez*, Weizmann Institute, for his work on theoretical high energy physics

Council of the Israel Physical Society

- President:** Prof. Yigal Meir, Department of Physics, Ben-Gurion University, +972-8-6472509, ymeir@bgu.ac.il
- Vice President:** Prof. Yaron Oz, School of Physics and Astronomy, Tel Aviv University, +972-3-6405189, yaronoz@post.tau.ac.il
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- Council Member:** Prof. Dan Shahar, Faculty of Physics, Weizmann Institute of Science, +972-8-9344554, dan.shahar@weizmann.ac.il
- Council Member:** Dr. Ehud Pazi, Physics department, Negev NRC, Beer Sheva, +972-8-6569114, ehudp@nrcn.org.il
- Council Member:** Mr. Michael Savin, Davidson Institute of Science education, Weizmann, +972-8-9378336, ntsavin@weizmann.ac.il
- Council Member:** Dr. Eli Raz, Ort Braude College, Karmiel, +972-4-9953201, eliraz@braude.ac.il
- Council Member:** Dr. Zvi Rosenstock, RAFAEL, Haifa, zvi_r@rafael.co.il
- Auditor:** Prof. Itzhak Yacobi, Racah Institute of Physics, Hebrew University of Jerusalem, +972-2-6585849, yizhak@vms.huji.ac.il

Auditor: Prof. Itzhak Tseurra, Faculty of Physics, Weizmann Institute of Science,
+972-8-9344052, tseurra@clever.weizmann.ac.il

Secretary: Helli Amir, Department of Physics Ben-Gurion University,
+972-8-6461644, ips@bgu.ac.il

Corporate Members of the IPS

Ariel University Center of Samaria
Bar-Ilan University
Ben-Gurion University of the Negev
Ort Braude College
Soreq Nuclear Research Center
Technion, Israel Institute of Technology
Tel Aviv University
The Hebrew University of Jerusalem
Weizmann Institute of Science

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Eshel Ben Jacob, TAU
Richard Berkovits, BIU
Doron Cohen, BGU
Avishai Dekel, HUJ
Joshua Feinberg, Oranim
Shmuel Fishman, Technion
Yuval Gefen, Weizmann
Joe Imry, Weizmann
Yigal Meir, BGU
Yaron Oz, TAU
Ehud Pazi, NRCN
Eli Raz, Braude
Ilan Riess, Technion
Yoram Rozen, Technion
Shmuel Shacham, Ariel
Efrat Shimshoni, BIU

Local Organizing Committee

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Israel Ben-Efraim
Steve Lipson
Ilan Riess (Chair)
Yoram Rozen
Liz Yodim

IPS 2011 Meeting Sponsors

Moshe Yanai Fund for the Promotion of International Conferences

Lewiner Institute for Theoretical Physics (LITP), Technion

Physics Department, Technion

American Physical Society

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Plenary Sessions

Opening plenary lecture

09:45-10:45 Robert Kirshner, Harvard University

LITP Sponsored Plenary Speaker

Exploding Stars and the Accelerating Universe: Einstein's Blunder Undone

Closing plenary lecture

17:45-18:45 Dan Shechtman, Technion

2011 Nobel Laureate in Chemistry

Quasi Periodic Materials, a Change of Paradigm

Review sessions

R1: High Energy and Astrophysics

Chair: Eilam Gross

Location: Ullman bldg. Room #305

11:00-11:30 Shaul Hanany, University of Minnesota

Cosmic Microwave Background Science in the Coming Decade

11:30-12:00 Alexander Milov, Weizmann Institute of Science

Hot and Dense Matter

R2: Condensed Matter

Chair: Joseph Imry

Location: Ullman bldg. Room #309

11:00-11:30 Kathryn Moler, Stanford University

APS supported review speaker

Mesoscopic Superconductivity

11:30-12:00 **Eva Y. Andrei**, Rutgers University
 APS supported review speaker
 Electronic properties of graphene

R3: Soft Condensed Matter and Optics

Chair: Ophir Auslaender

Location: Ullman bldg. Room #310

11:00-11:30 **Robert Pohl**, Cornell
 APS supported review speaker
 Lattice vibrations of disordered solids

11:30-12:00 **Moti Segev**, Technion
 Anderson Localization of Light and Beyond It

Parallel sessions

Sessions: 13:30-15:00

A1: Astrophysics I

Chair: Giora Shaviv

Location: Ullman bldg. Room #306

13:30-14:00 **Jordan Camp**
 NASA / Goddard Space Flight Center
 Time Domain X-Ray Astronomy on the ISS with Lobster Optic

14:00-14:15 **Dafne Guetta**
 University of Rome
 The redshift distribution of GRBs

14:15-14:30 **Gilad Svirski, Ehud Nakar, Eran Ofek**
 Tel Aviv University, Weizmann Institute
 Probing Soft Gamma Repeaters (SGRs) and dust in intervening molecular clouds by analyzing x-ray echoes from SGR bursts

14:30-14:45 **Uri Keshet**
 Ben Gurion University
 Cool cluster cores: the largest spiral flows

14:45-15:00 **Oded Papish**
 Technion
 Exploding Core-Collapse Supernovae with Jittering Jets

A2: Biophysics

Chair: Mario Feingold

Location: Ullman bldg. Room #308

- 13:30-13:50 **Ady Vaknin, Vered Frank, Moriah Koler, Smadar Furst**
Hebrew University
The thermal sensitivity of bacterial chemoreceptors
- 13:50-14:10 **Avraham Be'er, Eshel Ben-Jacob**
University of TX at Austin, Ben-Gurion University, Tel-Aviv University
Phenotypic switching allows bacteria to survive sibling rivalry
- 14:10-14:25 **Naomi Oppenheimer, Haim Diamant, Thomas Witten**
Tel Aviv University, University of Chicago
Anomalously fast kinetics of lipid monolayer buckling
- 14:25-14:40 **Mor Nitzan, Karen M. Wassarman, Ofer Biham, Hanah Margalit**
The Hebrew University, University of Wisconsin-Madison
A Mathematical Model of 6S RNA Regulation of Gene Expression
- 14:40-15:00 **Guy Nir, Moshe Lindner, Heidelinde R. C. Dietrich, Olga Girshevitz, Constantinos E. Vorgias, Yuval Garini**
Bar Ilan University, Delft University of Technology, National and Kapodistrian University of Athens
HU protein induces incoherent DNA persistence length

A3: Computational Physics

Chair: Joan Adler

Location: Ullman bldg. Room #303

- 13:30-13:50 **Polina Pine, Yuval Yaish, Joan Adler**
Technion
Atomistic simulations of vibration of carbon nanotubes: is it possible to measure the mass of a single atom?
- 13:50-14:10 **Shelomo I. Ben-Abraham, Alexander Quandt, Dekel Shapira**
Ben-Gurion University, Witwatersrand South Africa
Aperiodic structures, order and disorder, complexity and entropy
- 14:10-14:30 **Guy Tel-Zur**
BGU, NRCN
High-Productivity Computing in Computational Physics Education

14:30-14:50 **David Mazvovsky, Joan Adler**
Technion
Visualization of Carbon, Boron, and Silicon single walled nanotubes

A4: Disordered Systems and Statistical Physics I

Chair: Moshe Schechter

Location: Ullman bldg. Room #310

13:30-13:50 **Dmitry A. Parshin**
Saint Petersburg State Polytechnical University
Dipole echo in glasses in magnetic field

13:50-14:10 **Alejandro Gaita-Arino, Vicente Gonzalez-Albuixec, Moshe Schechter**
University of Valencia, University Politecnica de Valencia, Ben Gurion University
Identifying Two-Level-Systems: from K:Br:CN to Ar:N₂

14:10-14:30 **Eugene Kanzieper, Pedro Vidal**
Holon Institute of Technology
Statistics of reflection eigenvalues in chaotic cavities with non-ideal leads

14:30-14:45 **Eli Sloutskin, A. V. Butenko**
Bar-Ilan University
Bond orientational order in randomly-packed colloidal spheres

14:45-15:00 **Yaroslav M. Beltukov**
Saint Petersburg State Polytechnical University
A random matrix approach to the jamming transition

A5: High Energy Physics I

Chair: Shlomit Tarem

Location: Ullman bldg. Room #305

13:00-13:30 **E. Gross**
Weizmann Institute
SM Higgs Search at the LHC

13:30-13:50 **Iftah Galon, Yael Shadmi, Shahrazad Tarboush, Shlomit Tarem**
Technion
When a Muon Is Not a Muon - Detecting Fast Long-Lived Charged Particles from Cascade Decays Using a Mass Scan

13:50-14:10 **L.P. Horwitz, I. Aharonovich**
Tel Aviv University, Bar Ilan University, Ariel University of Samaria, IYAR Israel Institute for Advanced Research
Neutrino Oscillations and Short Transit Time

14:10-14:30 **Nimrod Taiblum**
Tel Aviv University
Search for New Long-Lived Particles at the ATLAS Detector

14:30-15:00 **Silvia Behar**
Technion - Physics Dep.
Charged Higgs Search with the ATLAS Detector

A6: Material Physics I

Chair: Ehud Pazi

Location: Ullman bldg. Room #302

13:30-14:00 **Eyal Yahel, Yaron Greenberg, Elad N. Caspi, Moshe Dariel, Guy Makov, Brigitte Beuneu**
NRCN, Ben Gurion University
LLB (CEA-CNRS), CEA/Saclay
On the correlation between microscopic structure and sound velocity anomaly in elemental liquid metals

14:00-14:15 **Yohai Bar Sinai, Eran Bouchbinder**
Weizmann Institute
Slow rupture of frictional interface

14:15-14:30 **Ariel Biller, Isaac Tamblyn, Jeffrey B. Neaton, Leeor Kronik**
Weizmann Institute, Molecular Foundry, LBNL
Electronic level alignment at a metal-molecule interface from a short-range hybrid functional

14:30-14:45 **Yehonadav Bekenstein, Kathy Vinokurov, Uri Banin, Oded Millo**
Hebrew University
Anomalous negative differential conductance oscillation in the tunneling spectra of Ru cage-like quantum-dots

14:45-15:00 **Sivan Refaely-Abramson, Roi Baer, Leeor Kronik**
Weizmann Institute, Hebrew University
Fundamental and excitation gaps in molecules of relevance for organic photovoltaics from an optimally tuned range-separated hybrid functional

A7: Optics Photonic I

Chair: Nirit Dudovich

Location: Ullman bldg. Room #307

13:30-14:00 **Ori Katz, Eran Small, Yaron Bromberg, Yaron Silberberg**
Weizmann Institute
Controlling Ultrashort Pulses in Scattering Media

- 14:00-14:15 **Uri Steinitz, Yehiam Prior, Ilya Sh Averbukh**
Weizmann Institute
Macroscopic Vortex Flow Induced by Local Injection of Angular Momentum by Laser
- 14:15-14:30 **Gil Porat, Yaron Silberberg, Ady Arie, Haim Suchowski**
Tel Aviv University, Weizmann Institute
Two photon frequency conversion
- 14:30-14:45 **Oren Raz, Oren Pedatzur, Barry D. Bruner, Nirit Dudovich**
Weizmann Institute
Spectral Caustics in Attosecond Science
- 14:45-15:00 **A.N. Pechen, D.J. Tannor**
Weizmann Institute
New results in the analysis of quantum control landscapes

A8: Plasma Physics

Chair: Anatoli Shlapakovski

Location: Ullman bldg. Room #304

- 13:30-13:43 **J . Papeer, C. Mitchell, J.Penano, Y. Ehrlich, P. Sprangle, A. Zigler**
Hebrew University, Naval Research Lab
Microwave diagnostics of femtosecond laser-generated plasma filaments
- 13:43-13:56 **Miron Ya. Amusia, Evgeniy G. Drukarev, Evgeniy Z. Liverts**
Hebrew University, Konstantinov Petersburg Institute of Nuclear Physics Gatchina
Back-to-back emission of the electrons in double photoionization of helium
- 13:56-14:09 **D. Levko, S. Yatom, V. Vekselman, J. Z. Gleizer, V. Tz. Gurovich, and Ya. E. Krasik**
Technion
Numerical simulation of nanoscale high-voltage breakdown of nitrogen at atmospheric pressure
- 14:09-14:22 **Alexander Kapulkin, Vladimir Balabanov, Maxim Rubanovich, Ehud Behar**
Technion
Some Features of Physical Processes in CAMILA Hall Thruster
- 14:22-14:35 **I. Gissis, A. Rikanati, I. Be'ery, A. Fisher, E. Behar**
Technion
TOWARDS RECOMBINATION PUMPED H-LIKE N 13.4nm X-RAY LASER
- 14:35-14:47 **S. Yatom, J. Z. Gelizer, D. Levko, V. Vekselman, V. Gurovich, E. Hupf, Y. Hadas, Ya. E. Krasik**
Technion, Massachusetts Institute of Technology, Rafael
Time-resolved investigation of nanosecond discharge in dense gas sustained by short and long high-voltage pulse
- 14:47-15:00 **A. Yahalom**
Ariel University Center of Samaria
A New Diffeomorphism Symmetry Group of Magnetohydrodynamics

A9: Topological phases and excitations

Chair: Prof. Yuval Gefen

Location: Ullman bldg. Room #309

- 13:30-13:40 **Ron Sabo, Itamar Gurman, Yunchul Chung, Moty Heiblum, Validimir Umansky, Diana Mahalu**
Weizmann Institute, Pusan National University, Korea
Search for Fractional statistics in Cross-Correlation Measurements at the $\nu=1/3$ Fractional Quantum Hall State
- 13:42-13:52 **Gabriele Campagnano, Oded Zilberberg, Igor V. Gornyi, Yuval Gefen**
Weizmann Institute, Forschungszentrum Karlsruhe, A. F. Io
Two-particle interference of anyons
- 13:54-14:04 **M. Petrushevsky, I. Diamant, E. Lahoud, S. Wiedmann, K. Chashka, A. Kanigel, Y. Dagan**
Tel-Aviv University, Technion, Radboud University Nijmegen
Probing the surface states in Bi₂Se₃ by Shubnikov-de Haas effect
- 14:06-14:16 **A. Yahalom, Robert Englman**
Ariel University Center of Samaria, Soreq NRC
Partial Phases in a Circling Electron
- 14:18-14:28 **Yuval Vinkler, Avraham Schiller, Natan Andrei**
Hebrew University, Rutgers University
Single-molecule-mediated heat current between an electronic and a bosonic bath
- 14:30-14:40 **Yuval Baum, Ady Stern**
Weizmann Institute
Magnetic Instability on the Surface of Topological Insulators
- 14:42-14:52 **Yaniv Tenenbaum Katan, Dr. Daniel Podolsky**
Technion
Creation and manipulation of topological insulators using light
- 14:54-15:04 **Yonatan Most, Yuval Oreg**
Weizmann Institute
The Search for Majorana Fermions in Quantum Wires

A10: Ultracold Atoms and Molecules I

Chair: Amichay Vardi

Location: Ullman bldg. Room #301

- 13:30-14:00 **Nir Davidson, Yoav Sagi, Miri Brook, Ido Almog**
Weizmann Institute
Anomalous diffusion and fractional self-similarity in one dimension
- 14:00-14:20 **Jonathan Ruhman, Emanuele G. Dalla Torre, Sebastian D. Huber, Ehud Altman**
Weizmann Institute, Harvard University
Non-local Order in Elongated Dipolar Gases
- 14:20-14:40 **Aleksandra Maluckov, Goran Gligoric, Lj. Hadzievski, Boris A. Malomed, Tilman Pfau**
University of Nis Serbia, Max-Planck-Institut fuer Physik komplexer Systeme, University of Belgrade, Tel Aviv University, Universitaet Stuttgart
Stable periodic density waves in dipolar Bose-Einstein condensates trapped in optical lattices
- 14:40-15:00 **Piotr Szankowski, Yehuda B. Band**
University of Warsaw, Ben Gurion University
Evolution of spins due to fluctuating fields

Sessions: 15:30-17:00

B1: Applied Physics

Chair: Zvi Rosenstock

Location: Ullman bldg. Room #303

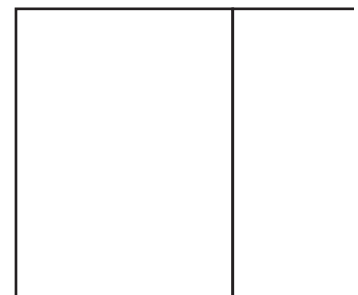
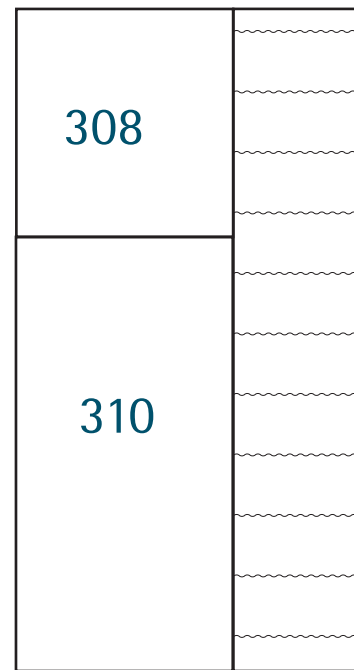
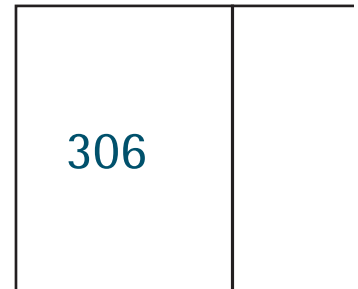
- 15:30-15:45 **G. Bachar, I. Baskin, O. Shtempeluk, E. Buks**
Technion
Towards single photon detector with almost unity quantum efficiency
- 15:45-16:00 **Ran Fischer, Andrey Jarmola, Pauli Kehayias, Dmitry Budker**
Technion, University of California, Berkeley, Lawrence Berkeley National Laboratory
Dynamic nuclear polarization of ensemble of nuclear spins in diamond
- 16:12-16:24 **Shlomi Zilberman**
Technion
Fiber Evanescent Wave Spectroscopy of Sub-Surface Burning Layers of Solid Propellants
- 16:24-16:36 **Avihai Akram, Assaf Levanon, Daniel Rozban, Amir Abramovich, Natan S. Kopeika**
Ben-Gurion University, Ariel University Center of Samaria
Down-conversion detection in 300 GHz radiation using Glow Discharge Detector (GDD)
- 16:36-16:48 **Y. Pinhasi, A. Yahalom**
Ariel University Center of Samaria
EHF for Satellite Communications: The New Broadband Frontier
- 16:00-16:12 **Gabriel Zeltzer, Ricardo Ruiz, Lei Wan, Elizabeth Dobisz, Hiroshi Yoshida, Y. Tada, K.C. Patel, Jeffrey Lille, H. Gao, Tsai Wei Wu, Olav Hellwig, Dan Kercher, Michael Grobis, Thomas R. Albrecht**
Hitachi Global Storage Technologies San Jose, Hitachi Research Laboratories Hitachi City Japan
Magnetic Bit Patterned Media Fabrication Using Block Copolymer Directed Assembly By

Review Talks and Sessions:

COFFEE ↓

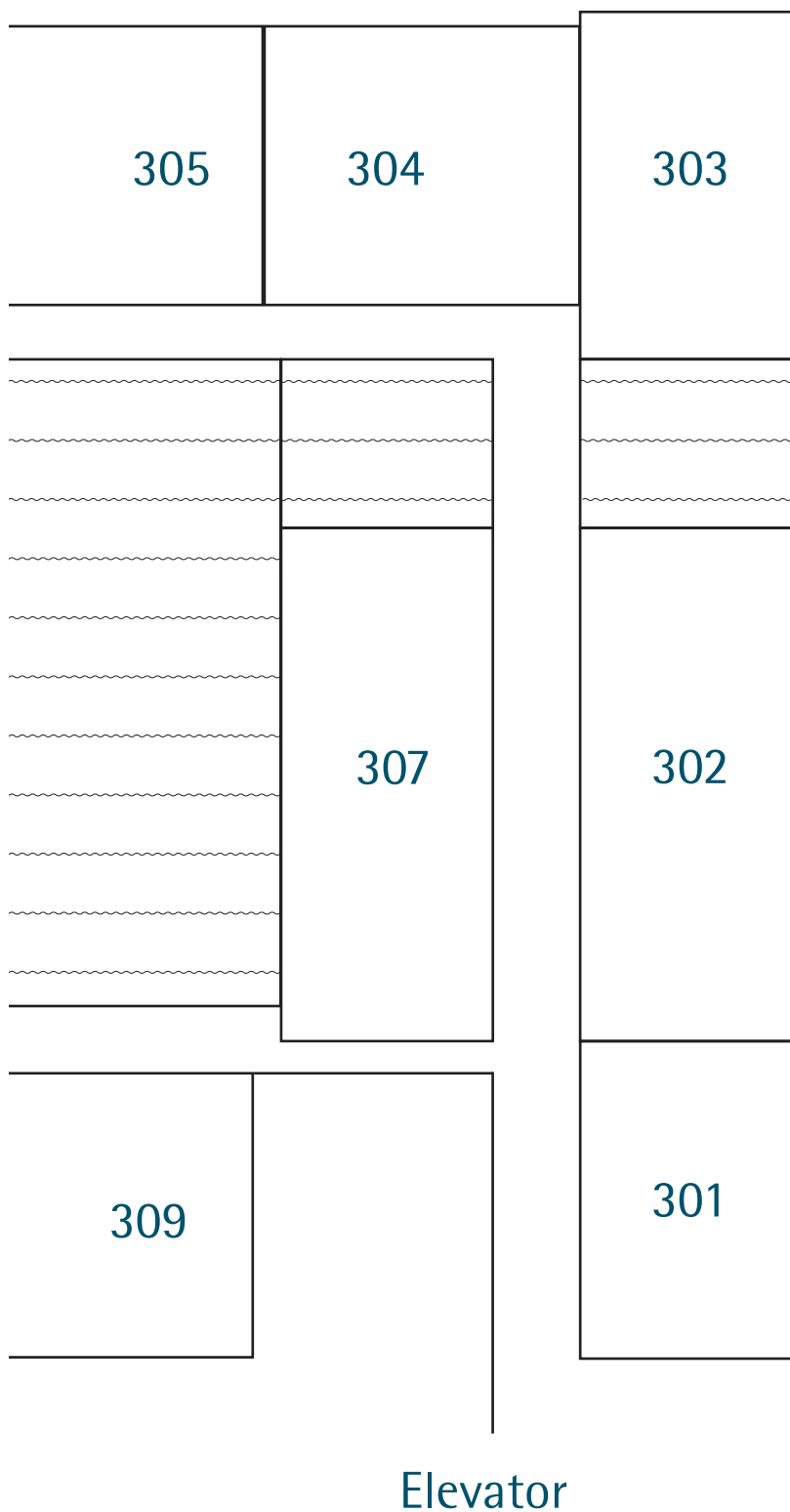
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Information →



IPS Business Meeting

Ullman Bldg. 3rd Floor



Rotary Stage Ebeam Lithography

16:48-17:00 **Yoad Yagil**
Philips Medical Systems
Multi energy Computed Tomography - an overview

B2: Astrophysics II

Chair: Giora Shaviv

Location: Ullman bldg. Room #306

15:30-16:00 **Boaz Katz**
Institute for Advanced Study
Super-eccentric hot Jupiters

16:00-16:30 **Smadar Bressler, Giora Shaviv, Nir J. Shaviv**
Technion, Hebrew University
Planetary atmospheric response to changes in greenhouse gas concentration

16:30-16:45 **Stephen Rafter, Shai Kaspi, Ehud Behar, Wolfram Kollatschny, Matthias Zetzl**
Technion, Goettingen University
Reverberation Mapping of the Intermediate-mass Nuclear Black Hole in SDSS J114008.71+030711.4

16:45-17:00 **Haim Edri, Stephen Rafter, Shai Kaspi, Doron Chelouche, Ehud Behar**
Technion, Haifa University
Photometric Reverberation Mapping of NGC 4395

B3: Correlated Electrons and Superconductivity

Chair: Assa Auerbach

Location: Ullman bldg. Room #309

15:30 **Sebastian D. Huber, Ehud Altman**
Weizmann Institute
Emergence and lifting of frustration for dipolar molecules

15:42 **Tom Leviant, Eli Zeldov, Yuri Myasoedov, Amit Keren**
Technion, Weizmann Institute
Spatially Resolved Magnetization Tunneling in the Fe₈ Nano-Magnet

15:54 **Amir Erez, Anushya Chandran, Shivaji L. Sondhi, Steven S. Gubser**
Ben Gurion University, Princeton University
Adiabatic quenches and loss of equilibrium in quantum and classical systems

- 16:06 Chia-Wei Huang, Efrat Shimshoni, Herbert Fertig
Bar-Ilan University, Indiana University Bloomington
Textured spin-valley domain wall in bilayer graphene at $\hat{\nu}_{1/2}=0$
- 16:18 Netanel Naftalis, Noam Haham, Jason Hoffman, Matthew S. J. Marshall, Charles H. Ahn, Lior Klein
Bar-Ilan University, Yale University
Angular dependence of the anomalous Hall effect in LSMO films
- 16:30 Gideon Wachtel, Dror Orgad
Hebrew University
Renormalization of the Superfluid Density in Composite Superconductors
- 16:42 Anna Eyal, Emil Polturak
Technion
BCC vs. HCP - The Effect of Crystal Symmetry on the High Temperature Mobility of Solid 4He
- 16:54 Anindya Das, Yuval Ronen, Moty Heiblum, Hadas Shtrikman, Diana Mahalu
Weizmann Institute
Positive Noise Cross Correlation in a Copper Pair Splitter

B4: Disordered Systems and Statistical Physics II

Chair: Yariv Kafri

Location: Ullman bldg. Room #310

- 15:30-15:45 Eli Barkai, Stas Burov
Bar Ilan University
Random walk in the quenched trap model
- 15:45-16:00 Ronen Vosk, Ehud Altman
Weizmann Institute
Ultracold bosons in disordered 1d traps: a new paradigm for the superfluid-insulator transition?
- 16:00-16:15 Gil Wolff, Dov Levine
Technion
Can a Translationally-Invariant System Have a Disordered Ground State?
- 16:15-16:30 Guy Bunin, Yariv Kafri, Daniel Podolsky
Technion
Rare events in driven diffusive systems numerics and simple models

16:30-16:45 Amir Bashan, Shlomo Havlin
Bar-Ilan University
Percolation in Network of Networks

16:45-17:00 S. Poran, E. Shimshoni, A. Frydman
Bar Ilan Univeristy
DISORDER INDUCED RATCHET EFFECT


B5: High Energy Physics II

Chair: Tarem Shlomit

Location: Ullman bldg. Room #305

15:30-16:00 Yasha Neiman, Shira Chapman, Yaron Oz
Tel Aviv University
The fluid/gravity duality and a Wald entropy current

16:00-16:20 Hagar Landsman
Weizmann Institute
The Askaryan Radio Array at the South Pole – Status

16:20-16:40 Yotam Soreq, Cedric Delaunay, Oram Gedalia, Yonit Hochberg, Gilad Perez
Weizmann Institute
Implications of the CDF  t-tbar Forward-Backward Asymmetry for Hard Top Physics

B6: Material Physics II

Chair: Dr. Ehud Pazi

Location: Ullman bldg. Room #302

15:30-16:00 M. L. Winterrose, L. Mauger, I. Halevy, A. F. Yue, M. S. Lucas, J. A. Muoz, H. Tan, Y. Xiao,
P. Chow, W. Sturhahn, T. S. Toellner, E. E. Alp, Z. Chen, B. Fultz
California Institute of Technology, Ben Gurion University, Carnegie Institution of Washington,
Argonne National Laboratory, University of Chicago, NSLS
Pressure-Induced Invar Behavior in Pd3Fe and the Dynamics of iron atoms across the
pressure-induced Invar transition

16:00-16:15 Ofer Sinai, Tali Aqua, Hagai Cohen, Veronica Frydman, Tatyana Bendikov, Dana Krepel,
Oded Hod, Leeor Kronik, Ron Naaman
Weizmann Institute, Tel Aviv University
Role of backbone charge rearrangement in the bond-dipole and work function of
molecular monolayers

16:15-16:30 Davide Levy, Roberto Giustetto
University of Torino, Tel Aviv University
Magnetite (Fe3O4) at high temperature: a Neutron Powder Diffraction study

B7: Optics and Photonics II

Chair: Nirit Dudovich

Location: Ullman bldg. Room #307

- 15:30-15:45 Nir Shitrit, Itay Bretner, Yuri Gorodetski, Vladimir Kleiner, Erez Hasman
Technion
Optical Spin Hall Effects in Plasmonic Chains
- 15:45-16:00 Adi Pick, Michael Gullans, Emre Togan, Yiwen Chu, Mena Issler, Susanne Yelin, Mikhail Lukin
Harvard University, ETH-Zuerich, University of Connecticut, ITAMP, Harvard-Smithsonian CFA
Cooling Nuclear Spins in Diamond via Dark State Spectroscopy
- 16:00-16:15 Yaron Kodriano, Ido Schwartz, Yael Benny, Eilon Poem, David Gershoni
Technion
Complete control of a single exciton spin state by a single, fast laser pulse
- 16:15-16:30 Liat Dovrat, Michael Bakstein, Daniel Istrati, Eli Megidish, Assaf Halevy, Lior Cohen, Hagai Eisenberg
Hebrew University
Direct measurements of the non-classicality degree in photon-number correlations
- 16:30-16:45 Shai Yefet, Na'aman Amer, Avi Pe'er
Bar-Ilan university
Controlling Mode Competition in Mode-locked Oscillators
- 16:45-17:00 Micha Nixon, Moti Fridman, Eitan Ronen, Asher Friesem, Nir Davidson, Ido Kanter
Weizmann Institute, Bar-Ilan University
Synchronized Cluster Formation in Coupled Laser Networks

B8: Ultracold Atoms and Molecules II

Chair: Amichay Vardi

Location: Ullman bldg. Room #301

- 15:30-16:00 Hossein Sadeghpour
ITAM, Harvard-Smithsonian CFA
Ultralong range (and ultracold) Rydberg molecules
- 16:00-16:20 Olga Machtay, David A Kessler, Lev Khaykovich
Bar Ilan University
Universal dimer in a collisionally opaque medium - effect on Efimov resonances.
- 16:20-16:40 Etay Lavert Ofir
Weizmann Insitute
Stopping paramagnetic supersonic beams: the advantage of a co-moving magnetic trap decelerator

16:40-17:00 Yoav Sagi, Tara Drake, Rabin Paudel, John Gaebler, John Stewart,
Deborah Jin JILA, NIST and University of Colorado
Towards Probing Homogeneous Strongly Interacting Fermi Gas

Posters

Categories:

- A - Computational Physics
- B - High Energy Physics
- C - Plasma Physics
- D - Astrophysics
- E - Correlated electron and boson systems
- F - Topological phases and excitations
- G - Ultracold atoms and molecules
- H - Biophysics
- I - Review session: Soft Condensed Matter & Optics
- J - Disordered systems
- K - Review session: Condensed Matter
- L - Material Physics
- M - Optics
- N - Applied Physics

- PE-01 Meni Shay, Amit Keren, Gil Drachuck, Galina Bazalitski
Ort Braude College
Technion
Raman Scattering in CLBLCO - an analogue to the Isotope effect
- PG-02 Ephraim Shamon, Gershon Kurizki, Michael Fleischhauer, David Petrosyan
Weizmann Institute, Technische Universitat Kaiserslautern, FORTH Greece
Strongly interacting photons in hollow-core waveguides
- PL-03 Amir Levy, David Andelman, Henri Orland
Tel Aviv University, CE-Saclay, CEA, France
Dielectric Constant of Ionic solutions: A Field Theory Approach
- PG-04 Christine Khripkov, Amichay Vardi
Ben-Gurion University
QUANTUM ZENO CONTROL OF COHERENT DISSOCIATION
- PE-05 Vadim Puller, F. Pistolesi, B. Lounis
University Bordeaux, School & CNRS
Single molecule detection of nanomechanical motion

- PL-06 Eli Flaxer
AFEKA –Tel-Aviv Academic College of Engineering
Fast Mass Programming Controller for Supper Sonic Gas Chromatography Mass Spectrometer
- PG-07 Erez Zohar, Benni Reznik
Tel Aviv University
Confinement and lattice QED electric flux-tubes simulated with ultracold atoms
- PK-09 Adi Pick, Michael Gullans, Emre Togan, Yiwen Chu, Mena Issler, Susanne Yelin, Mikhail Lukin
Harvard University, University of Connecticut, ITAMP, Harvard-Smithsonian CFA
Cooling Nuclear Spins in Diamond via Dark State Spectroscopy
- PM-10 Yoni Shalibo, Roy Resh, Uri Vool, Ofer Fogel, Nadav Katz
The Hebrew University
Wigner Tomography of Classical and Non-Classical States in a Superconducting Anharmonic Oscillator
- PE-11 Gil Drachuck, Meni Shay, Galina Bazalitsky, Zaher Salman, Alex Amato, Christof Niedermayer, Peter Lemmens, Dirk Wulferding, Amit Keren
Technion, Ort Braude College, Paul Scherrer Institute, TU Braunschweig
New Perspectives for Cuprate Research: A CLBLCO Single Crystal
- PF-12 Yaron Gross, Merav Dolev, Moty Heiblum, Vladimir Umansky Diana Mahalu
Weizmann Institute
Upstream neutral modes in the fractional quantum Hall effect regime: heat waves or coherent dipoles
- PE-13 Amir Erez, Yigal Meir
Ben Gurion University
How to measure the spatial characteristics of the Kosterlitz- Thouless transition in disordered systems?
- PK-14 Ido Barth, Lazar Friedland
Hebrew University
Control of Multi-levels Systems by Chirping
- PA-15 Jorge Berger
Ort-Braude College
Fluctuation Current in Superconducting Loops
- PE-16 Miron Ya. Amusia, Larissa V. Chernysheva, Valery K. Dolmatov
Hebrew University, Ioffe Physical-Technical Institute Russia, University of North Alabama
Confinement and correlation effects in the Xe@C60 generalized oscillator strengths

- PK-17 Eilon Poem, Yehonatan Gilead, Yaron Silberberg
Weizmann Institute
Two Photon Path-Entangled States in Multimode Waveguides
- PE-18 Miron Ya. Amusia, Larissa V. Chernysheva
Hebrew University, Ioffe Physical-Technical Institute Russia
Reflection of inner shell resonances in the outer shell photoionization of endohedral atom Xe@C60
- PB-19 Rafi Milo
Elta IAI radars development
Absolute Time and Absolute Simultaneity
- PF-20 Yaacov E. Kraus, Zohar Ringle, Ady Stern
Weizmann Institute
The strong side of weak topological insulators
- PE-21 Eyal Dvash, Boris Shapiro
Bar-Ilan University
Flux-Antiflux Instability in Channels
- PE-22 Noam Haham, Yishai Shperber, Moty Schultz, Netanel Naftalis, Efrat Shimshoni, James W. Reiner, Lior Klein
Bar-Ilan University, Hitachi Global Storage Technologies CA
Scaling of the anomalous Hall effect in SrRuO3
- PG-23 S. Kallush, J. L. Carini, J. A. Pechkis, C. E. Rogers III, P. L. Gould, R. Kosloff
ORT Braude, University of Connecticut, Hebrew University
Quantum dynamical calculations of ultracold collisions induced by nonlinearly chirped light
- PC-24 L. Gilburd, S. Efimov, A. Fedotov Gefen, V. Tz. Gurovich, G. Bazalitski, O. Antonov, Ya. E. Krasik
Technion
Modified wire array underwater electrical explosion
- PM-25 Oren Raz, Dan Oron, Nirit Dudovich
Weizmann Institute
Vectorial Phase Retrieval: from lensless imaging to pulse characterization and back
- PJ-26 David Gelbwaser, Noam Erez, Robert Alicki, Gershon Kurizki
Weizmann Institute, Tel Aviv University, University of Gdansk
Quantum heat engine fueled by unread measurements

- PE-27 A. Auerbach, S. Capponi, V. Ravi Chandra, M. Weinstein
Technion, Universite Paul Sabatier France, SLAC, Stanford University
The spin-1/2 Kagome antiferromagnet: a study using contractor renormalization
- PF-28 Emil Weisz, Hyungkook Choi, Oktay Goktas, Moty Heiblum, Yuval Gefen, Vladimir Umansky,
Diana Mahalu
Weizmann Institute
Physics of an isolated electron puddle revealed via dephasing in thermal equilibrium
- PB-29 Or Hen
Tel Aviv University
Short Range Correlations and the EMC Effect
- PB-30 Igor Korover
Tel Aviv University
Experimental study of Short Range Correlations in nuclei
- PE-31 Nimrod Bachar, Shachar Lerer, Shay Hacoheh-Gourgy, Boaz Almog, Guy Deutscher
Tel Aviv University, Ariel University Center of Samaria
Negative Magnetoresistance at High Magnetic Fields in Granular Aluminum
- PK-32 Alexander Pechen
Weizmann Institute of Science
Engineering arbitrary pure and mixed quantum states
- PH-33 M. Einat, A. Yahalom
Ariel University Center of Samaria
Induced static magnetic field by a cellular phone
- PD-34 A. Yahalom
Ariel University Center of Samaria
Stability in the Weak Variational Principle of Barotropic Flows and Implications for Self-Gravitating Discs
- PH-35 K.Komoshvili, J.Levitan, S.Aronov, A.Yahalom, B.Kapilevich
Ariel University Center of Samaria
Millimeter Waves Non-Thermal Effect on Human Lung Cancer Cells
- PB-36 A. Yahalom
Ariel University Center of Samaria
Faster than Light Particles within the Frame Work of Relativity
- PJ-37 A. Yahalom, M. Lewkowicz, J. Levitan, G. Elgressy, L.P. Horwitz, Y. Ben-Zion
Ariel University Center of Samaria, Bar Ilan University
Uncertainty Relation for Chaos

- PH-38 Moran Yadid, Amir Landesberg
Technion
Symmetric Modulation of Cross-Bridge Kinetics by Sarcomere Velocity During Shortening and Lengthening in Cardiac Trabeculae; A New Insight on Sarcomere Dynamics
- PI-39 Yacov Kantor, Mohammad F. Maghrebi, Mehran Kardar
Tel Aviv University, Massachusetts Institute of Technology
Entropic forces between polymers and scale-invariant surfaces
- PF-40 Jian-Hua Jiang
Weizmann Institute
Non-Abelian states from k-space vortex
- PF-41 Jian-Hua Jiang, Si Wu
Weizmann Institute of Science, University of Toronto
Helical magnetic order at the edges/surfaces of topological insulators due to Fermi surface nesting
- PA-42 Alex Kouniavsky, Emil Polturak, Joan Adler
Technion
Simulation of shear elastic moduli of copper near surfaces
- PM-43 Er'el Granot, Eitam Luz, Avi Marchewka
Ariel University Center of Samaria
Generic propagation dynamics of pulses with sharp-boundaries or singularities in dispersive media
- PK-44 Eliyahu Shwartz, Lev Khaykovich
Bar Ilan University
Transition between in- and anti-phase TE-TM mode dynamics in a semiconductor laser subject to external feedback
- PA-45 Roi Levy, Yigal Meir
Ben Gurion University
Source of Dephasing in 2D Disordered Systems at Low Temperatures
- PH-46 Liat Rosenfeld, Sharon Yunger, Yaron Shav-Tal, Yuval Garini
Bar-Ilan University
The in vivo transcriptional kinetics of single alleles reveals promoter regulation during the cell cycle



- P-47 I. Halevy, A. Hen, I. Orion, E. Colineau, R. Eloirdi, J.-C. Griveau,
P. Gaczkowski, F. Wilhelm, A. Rogalev, J.-P. Sanchez, M. L. Winterrose,
N. Magnani, A. B. Shick, R. Caciuffo
Nuclear Research Center Negev, Ben Gurion University, California Institute of Technology,
European Commission, Joint Research Centre, Institute for Transuranium Elements, Germany,
European Synchrotron Radiation Facility (ESRF), France, SPSMS, UMR-E CEA/UJF-Grenoble 1,
France, Lawrence Berkeley National Laboratory, Academy of Sciences of the Czech Republic
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- PD-48 Assaf Eitan, Ehud Behar
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- PM-49 Igor Yulevich, Kobi Frischwasser, Vladimir Kleiner, Erez Hasman
Technion
Rashba-Like Spin Degeneracy Breaking in Coupled Thermal Antenna Lattices
- PD-50 N. Parkansky, E. Faktorovich-Simon, B. Alterkop, O. Berkh, R.L. Boxman
Tel Aviv University
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- PK-51 David Mermelstien, Moran Biton, Shmuel Sternklar, Er'el Granot
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- PG-52 Yuval Shagam, Etay Lavert-Ofir, Edvardas Narevicius
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- PK-53 Shalom Bloch, Alexander Lifshitz, Shmuel Sternklar, Er'el Granot
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- PK-54 Yuval Yifat, Jacob Scheuer
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- PI-55 Adar Sonn, Anne Bernheim, Haim Diamant, Yael Roichman
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- PG-56 David Shwa, Nadav Katz
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Adiabatic to non adiabatic transition in dynamical EIT

- PB-57 Nadav Priel, Etai Nativ
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- PG-58 Yuval Shagam, Etay Lavert-Ofir, Edvardas Narevicius
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- P-59 Yoav W. Windsor, Alexander Gerber, Michael Karpovski
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- PL-60 D. Yuvaraj, Gil Bachar, Oren Suchoi, Oleg Shtempluck, Eyal Buks
Technion
Fabrication of Nb/Al(AIOx)/Nb DC SQUID by focused ion beam sculpturing
- M-61 Barak Brez, Sarah Cohen, Bavat Barak, Andre Yaroshevsky, Ziv Glasser, Er'el Granot, Shmuel Sternklar
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Extending the ballistic regime of turbid media
- PK-62 Eyal Schwartz, Stephen G. Lipson, Erez N. Ribak
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Concepts of Fourier transform spectroscopy using a Sagnac interferometer
- PN-1000 Mor Verbin, Yaacov E. Kraus, Yoav Lahini, Zohar Ringel, Oded Zilberberg
Weizmann Institute
Experimental Observations of Topological States and Adiabatic Pumping in Quasicrystals
- PK-1000 Liat Dovrat, Michael Bakstein, Daniel Istrati, Assaf Shaham, Hagai Eisenberg
Hebrew University
Direct measurement of the dependence of the photon-number distribution on the number of modes in parametric down-conversion
- PL-1000 Assaf Shaham, Hagai Eisenberg
Hebrew University
Experimental study of the decoherence of biphoton qutrits
- P- Aielet Efrati
Weizmann Institute
Asymmetric Higgsino Dark Matter

$$i\hbar \frac{\partial \psi}{\partial t} = -\frac{\hbar^2}{2m} \Delta \psi + V\psi$$

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Notes