Contents

Contents ................................................................................................................................................................. 3
Welcome to IPS 2011 ........................................................................................................................................ 4
From the President of the IPS .......................................................................................................................... 4
Student Prizes ..................................................................................................................................................... 6
Prizes for Young Scientists ............................................................................................................................ 6
Council of the Israel Physical Society ........................................................................................................... 6
Corporate members of the IPS ........................................................................................................................ 7
Scientific Program Committee ....................................................................................................................... 7
Local Organizing Committee .......................................................................................................................... 7
IPS 2011 Meeting Sponsors ............................................................................................................................ 8
Plenary Sessions .................................................................................................................................................. 8
Review Sessions .................................................................................................................................................. 8
Parallel Sessions .................................................................................................................................................. 9
Posters ............................................................................................................................................................... 22
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

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Corporate Members of the IPS

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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 Mazovsky, 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

Hebrew University, Naval Research Lab  
Microwave diagnostics of femtosecond laser-generated plasma filaments

Hebrew University, Konstantinov Petersburg Institute of Nuclear Physics Gatchina  
Back-to-back emission of the electrons in double photoionization of helium

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

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 Englmana
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 ↓

LUNCH

Information →

WC

IPS Business Meeting

306

308

310
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 \( \nu = 0 \)

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 University
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–t bar 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,
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, Leor 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’amam 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 Machtey, 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 Shamoon, 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

ORT Braude, University of Connecticut, Hebrew University
Quantum dynamical calculations of ultracold collisions induced by nonlinearly chirped light

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 Hacohen–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
Symmetric Modulation of Cross-Bridge Kinetics by Sarcomere Velocity During Shortening and Lengthening in Cardiac Trabeculae; A New Insight on Sarcomere Dynamics

Entropic forces between polymers and scale-invariant surfaces

Non-Abelian states from k-space vortex

Helical magnetic order at the edges/surfaces of topological insulators due to Fermi surface nesting

Simulation of shear elastic moduli of copper near surfaces

Generic propagation dynamics of pulses with sharp-boundaries or singularities in dispersive media

Transition between in-and anti-phase TE-TM mode dynamics in a semiconductor laser subject to external feedback

Source of Dephasing in 2D Disordered Systems at Low Temperatures

The in vivo transcriptional kinetics of single alleles reveals promoter regulation during the cell cycle
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
Structural, Electronic and Magnetic Characteristics of Np2Co17

PD-48  Assaf Eitan, Ehud Behar
Technion
X-ray absorption in high redshift quasars

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
Titanium Submerged Arc (SA) Breakdown of Methylene Blue (MB) in Aqueous Solutions

PK-51  David Mermelstien, Moran Biton, Shmuel Sternklar, Er’el Granot
Ariel University Center of Samaria
Probing stimulated Brillouin scattering in an optical fiber using noise-correlation radar

PG-52  Yuval Shagam, Etay Lavert-Ofir, Edvardas Narevicius
Weizmann Institute
Towards density and phase space compression of atomic and molecular gases in static and dynamic electromagnetic traps

PK-53  Shalom Bloch, Alexander Lifshitz, Shmuel Sternklar, Er’el Granot
Ariel University Center of Samaria
Transforming optical frequency changes to modulation-phase changes by Mutually Modulated Cross-Gain Modulation

PK-54  Yuval Yifat, Jacob Scheuer
Tel Aviv University
Slow light in Coupled VCSEL arrays

PI-55  Adar Sonn, Anne Bernheim, Haim Diamant, Yael Roichman
Tel Aviv University
Ben Gurion University
Two point microrheology of 2D colloidal dispersions and actin networks

PG-56  David Shwa, Nadav Katz
Hebrew University
Adiabatic to non adiabatic transition in dynamical EIT
PB-57  Nadav Priel, Etai Nativ  
Weizmann Institute  
Current Challenges in Direct Detection of Dark Matter with XENON Experiment

PG-58  Yuval Shagam, Etay Lavert-Ofir, Edvardas Narevicius  
Weizmann Institute  
Towards density and phase space compression of atomic and molecular gases in static and dynamic electromagnetic traps

P-59  Yoav W. Windsor, Alexander Gerber, Michael Karpovski  
Tel Aviv University  
Dynamics of Successive Minor Loops

PL-60  D. Yuvaraj, Gil Bachar, Oren Suchoi, Oleg Shtempluck, Eyal Buks  
Technion  
Fabrication of Nb/Al(AlOx)/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  
Ariel University Center of Samaria  
Extending the ballistic regime of turbid media

PK-62  Eyal Schwartz, Stephen G. Lipson, Erez N. Ribak  
Technion  
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
\[ \hbar \psi = -\frac{\hbar^2}{2m} \Delta \psi + V \psi \]

\[ \text{at} \]

\[ \frac{\partial^2}{\partial t^2} \psi \]