

The 15th Israeli Conference on Plasma Science and Applications

Israel Plasma Science and Technology Association

H.I.T. – Holon Institute of Technology, February 4th, 2013

Program

08:15 - 08:45	Registration and Coffee	
08:45 - 09:00	Welcoming Remarks	
09:00 - 10:30	First Session (Chair: A. Fisher)	
09:00 – 09:30	Y. Maron, <i>WIS</i> (Invited)	Dynamics of the K-radiating stagnating plasmas in z-pinch experiments: Implications for pressure and energy balance
09:30 - 09:45	R. Doron, B. Rubinstein, A. Fruchtman, R. Arad, J. Citrin, and Y. Maron, <i>WIS</i> and <i>HIT</i>	The structure of a magnetic-field front propagating through low-resistivity, multi-ion species plasma
09:45 - 10:00	O. Antonov, S. Efimov, D. Yanuka, V. Tz. Gurovich and Ya. E. Krasik, <i>Technion</i>	Generation of converging strong shock wave by underwater electrical explosion of spherical wire array
10:00 - 10:15	D. Shafer, G. Toker, V. Tz. Gurovich, S. Gleizer and Ya. E. Krasik, <i>Technion</i>	Convergence of shock wave generated by underwater electrical explosion of ring-shaped wires
10:15-10:30	I. Be'ery, O. Seemann, A. Fruchtman, A. Fisher and J. Nemirovsky, <i>Technion</i> and <i>HIT</i>	Measuring drift velocity and electric field in mirror machine by fast photography
10:30 - 10:50	Coffee break	
10:50 - 12:20	Second Session (Chair: N. J. Fisch)	
10:50 - 11:20	J. Jortner, <i>TAU</i> (Invited)	Conversion of laser energy to nuclear energy
11:20 - 11:35	E. Schleifer, S. Eisenmann, M. Botton, E. Nahum, Y. Pomerantz, F. Abricht, J. Branzel, G. Priebe, S. Steinke, A. Andreev, M. Schnuerer, W. Sander, D. Gordon, P. Sprangle and K. W. D. Ledingham, and A. Zigler, <i>HUJI, MBI, NRL, USG</i>	Enhanced proton acceleration by an ultrashort laser interaction with structured dynamic plasma targets
11:35 - 11:50	I. Gissis, A. Rikanati, I. Be'ery, A. Fisher, E. Behar, <i>Technion</i>	Spectroscopy of a nitrogen capillary discharge plasma aimed at a recombination pumped x-ray laser

11:50 - 12:05	E. Jerby, Y. Meir, Z. Barkay, D. Ashkenazi, J. B. Mitchell, T. Narayanan, N. Eliaz, J. L. LeGarrec, M. Sztucki, <i>TAU, Rennes, ESRF</i>	Experimental Characteristics of dusty plasmoids excited by localized microwaves in air atmosphere
12:05 - 12:20	E. Faktorovich-Simon, N. Parkansky, V. Yacubov, B. Alterkop, O. Berkh, R. L. Boxman, Z. Barkay, Yu. Rosenberg, L. Burstein, A. Khatchourians, <i>TAU</i>	Electrode erosion effect on decomposition of methylene blue in aqueous solutions
12:20 - 14:00	Lunch and Posters	
14:00 - 15:15	Third Session (Chair: L. Friedland)	
14:00 - 14:30	N. J. Fisch, <i>Princeton</i> (Invited)	Wave compression in plasma
14:30 - 14:45	P. Khain and L. Friedland, <i>HUJI</i>	Resonant excitation of plasma waves via formation of holes in phase space
14:45 - 15:00	A. Yahalom, <i>Ariel</i>	Aharonov Bohm constraints for fusion
15:00 - 15:15	J. H. P. Mizrahi and Ya. E. Krasik, <i>Technion</i>	Radial ion dynamics in a cylindrical hollow cathode
15:15 - 15:35	Coffee break	
15:35 - 16:50	Fourth Session (Chair: H. R. Strauss)	
15:35 - 15:50	G. Makrinich and A. Fruchtman, <i>HIT</i>	Enhanced momentum delivery by electric force due to ion-neutral collisions
15:50 - 16:05	D. Lev, <i>Rafael</i>	Review of Magneto-Plasma-Dynamic (MPD) thrusters
16:05 - 16:20	M. Einat, M. Pilosof, R. Ben-Moshe, H. Hirshbein and D. Borodin, <i>Ariel</i>	95GHz gyrotron with ferroelectric cathode
16:20 - 16:35	I. I. Beilis, Y. Koulik, R. L. Boxman, <i>TAU</i>	Effective Cathode Voltage Increase in a Vacuum Arc with a Black Body Electrode Configuration
16:35 - 16:50	E. Gidalevich and R. L. Boxman, <i>TAU</i>	Steady-state plasma bubbles excited by microwave radiation
16:50 - 17:10	Electing new IPSTA Chair and Committee	
17:10 - 17:30	Samuel Goldsmith Best Student Presentation Awards	
17:30 - 18:00	Farewell party	

Posters

1. L. Beilin, A. Shlapakovski, and Ya. E. Krasik, *Technion* - [Two-frequency microwave pulse compressor with a magic-tee-based plasma switch.](#)
2. Y. Katzir and A. Zigler, *HUJI* - [High intensity laser optical manipulation by plasma channels for contrast ratio enhancement and high harmonic generation.](#)
3. D. Mikitchuk , E. Kroupp, R. Doron, E. Stambulchik, H. Strauss, A. Fisher, A. Fruchtman, and Y. Maron, *WIS, HRS Fusion, Technion, and HIT* - [Investigation of the compression of magnetized plasma and magnetic flux .](#)
4. T. Queller, J. Z. Gleizer, and Ya. E. Krasik, *Technion* - [Novel high current carbon composite capillary cathode.](#)
5. B. Sagi, I. I. Beilis, **V. Zhitomirsky**, O. Margulis, and R. L. Boxman, *TAU* - [Experimental Study of Cathode Spot Motion in a Vacuum Arc with a Long Rectangular Roof-shaped Cathode.](#)
6. A. Sayapin and A. Levin, *Technion* - [Relativistic magnetron with inbuilt magnetic block.](#)
7. D. Tsimanis and R. L. Boxman, *TAU* - [Microwave Plasma Excitation for a Lighting Application.](#)
8. S. Yatom and Ya. E. Krasik, *Technion* - [Spectroscopic research of the plasma parameters generated during nanosecond “runaway” discharge at atmospheric pressure.](#)