IX INTERNATIONAL WORKSHOP ON MICROWAVE DISCHARGES: Fundamentals and Applications

September 7-11, 2015
Cordoba (Spain)

PROGRAM
IX INTERNATIONAL WORKSHOP ON MICROWAVE DISCHARGES: Fundamentals and Applications

Córdoba (Spain)

September 7-11, 2015

Organized by:

Departamento de Física
Departamento de Física Aplicada
Universidad de Córdoba
MD-9 PROGRAM

Sunday, 6 September

16:00  Registration
19:00  Welcome Party

Monday, 7 September

9:00   Registration
10:40  Opening Ceremony

Session: Plasma Theory and Modeling

10:55  GL-1. M. Moisan (plenary)
11:35  The power absorbed per electron $\theta_A$ from the E-field and the power lost per electron under collisions with heavy particles $\theta_L$ as meaningful physical parameters allowing characterizing and modeling DC, RF and microwave discharges as functions of operating conditions.

11:35  TL-1. J. P. Boeuf
12:00  Resonant energy absorption and collisionless electron heating in surface wave discharge

12:00  TL-2. B. Gimeno
12:25  Multipactor RF breakdown analysis in a parallel-plate waveguide partially filled with a magnetized ferrite slab.

13:00  Lunch
Session: Plasma Diagnostics

14:30  GL-2. J. van der Mullen (plenary)
      Power manipulation and laser agitation.

15:10  TL-3. M. Nagatsu
      Oxygen atomic density measurement in N\textsubscript{2}/O\textsubscript{2} surface-wave plasma using VUV absorption spectroscopy with a compact microwave plasma light source.

15:35  TL-4. N. Britun
      Optical characterization of microwave surfaguide discharge for CO\textsubscript{2} conversion.

16:00  Coffee break

Session: Microwave Plasma Applications & Plasma Theory and Modeling

16:25  GL-3. P. Awakowicz (plenary)
      Recent progress in barrier coating deposition: Microwave plasma characteristics and correlation to thin film properties.

17:05  TL-5. E. Benova
      Effect of dielectric tube thickness and permittivity on microwave plasmas sustained by travelling wave.

17:30  TL-6. A. Berthelot
      Different pressure regimes of a surface-wave discharge in argon: A modelling investigation.

19:00  Dinner

Tuesday, 8 September

Session: Microwave Plasma Generation

9:00   GL-4. I. A. Kossyi (plenary)
      Interaction of powerful microwave beams with the metal-dielectric powder mixtures (physics and applications).

9:40   TL-7. K. Gadonna
      Microwave discharges in fibers and capillaries.
10:05  TL-8. A. M. Davydov
10:30 Mode of production and application range of lengthy microwave torch excited at a considerably subthreshold fields in atmospheric pressure gases.

10:30 Coffee break

Session: Microwave Plasma Applications & Plasma Diagnostics

10:55  GL-5. L. Zajičková (plenary)
11:35 Atmospheric pressure microwave torch for synthesis of nanomaterials.

11:35  TL-9. J. Palomares
12:00 State of equilibrium departure of microwave induced plasmas for CO₂ dissociation.

12:00  TL-10. Yu. A. Lebedev
12:25 Emission spectroscopy of dipolar plasma source in low pressure hydrogen.

13:00 Lunch

Session: Tributes

14:30  M. Moisan
15:10 A tribute to the work achieved by Professor Zenon Zakrzewski at the Université de Montréal.

15:10  F. M. Dias
15:35 Tribute to the memory of Professor Carlos Matos Ferreira.

15:35 Coffee break

16:00 Poster Session
18:00

19:00 Dinner
Wednesday, 9 September

9:00  Excursion
13:00 Lunch

Session: Microwave Plasma Applications

14:30  GL-6. C. López-Santos (plenary)
15:10  Functionalization of polymeric materials by surface wave plasmas with biomedical applications.

15:10  TL-11. S. Espinho
15:35  Argon microwave plasmas as sources of vacuum ultraviolet radiation.

15:35  TL-12. S. Wang
16:00  Non-thermal microwave plasma dissociation of CO_2 with high energy and conversion efficiencies by chemical equilibrium shift.

16:00  Coffee break

Session: Microwave Plasma Generation

16:50  Investigation of microwave discharge in cavity reactor excited in the TM_{013} mode.

16:50  TL-14. I. A. Kossyi
17:15  Problem of microwave breakdown in the vehicle-borne components and way of its prevention.

17:15  TL-15. J. Kim
17:40  Microwave excited atmospheric pressure plasma jet using microstrip line for the synthesis of carbon nanomaterials.

19:00  Dinner
Thursday, 10 September

Session: Microwave Plasma Applications

9:00    GL-7.  *E. Tatarova* (plenary)
9:40    Assembling and engineering of 2D carbon nanostuctures by plasmas.

9:40    TL-16.  *I. Montero*
10:05   Surface treatments for controlling the multipactor discharge of microwave components.

10:05    TL-17.  *G. Chen*
10:30   Plasma-assisted catalysis for conversion of CO\textsubscript{2} and H\textsubscript{2}O over supported nickel catalysts.

10:30   Coffee break

Session: Plasma Diagnostics

10:55   GL-8.  *M. A. Gigosos* (plenary)

11:35    TL-18.  *J. van der Mullen*
12:00   The key-role of Thomson scattering in the characterization of microwave plasmas.

12:00    TL-19.  *M. A. Gogoleva*
12:25   Study of strongly non-uniform non-equilibrium microwave plasma in nitrogen by means of probe and optical methods.

13:00   Lunch

Session: Plasma Theory and Modeling

14:30   GL-9.  *A. Bogaerts* (plenary)
15:10   Computer modeling of a microwave discharge used for CO\textsubscript{2} splitting.

15:10    TL-20.  *E. Benova*
15:35   Wave and plasma characteristics of surface-wave-sustained discharges at various geometrical configurations and azimuthal wave modes.
15:35  TL-21. **I. Ganachev**  
16:00  Minimalistic self-consistent modeling of planar microwave surface wave discharges.

16:00  TL-22. **V. Georgieva**  
16:25  Influence of the operating conditions on Ar microwave plasma characteristics: Modelling and experiment.

16:25  Coffee break  
16:50  International Scientific Committee Meeting  
19:00  Conference Banquet  

**Friday, 11 September**

Session: Microwave Plasma Generation  
9:00  GL-10. **V. Skalyga** (plenary)  
9:40  High current pulsed ECR ion sources.

9:40  TL-23. **E. Jerby**  
10:05  Localized microwave interactions with metallic dusty-plasma columns.

10:05  TL-24. **M. Moisan**  
10:30  Achieving intense maintenance electric field in a discharge such that periodic parametric instabilities are generated.

10:30  Coffee break

Session: Microwave Plasma Applications  
10:55  GL-11. **F. M. Dias** (plenary)  
11:35  N-doping of graphene by a N$_2$-Ar remote plasma.

11:35  TL-25. **L. Liard**  
12:00  Microwave sustained plasma microdischarge as power-induced limiter element in microstrip devices.

12:00  Closing Ceremony  
13:00  Lunch