

8TH INTERNATIONAL WORKSHOP ON MECHANISMS OF VACUUM ARCS (MeVArc)

<https://indico.cern.ch/event/774138/>



ORTO BOTANICO, PADOVA - ITALY
SEPTEMBER 16-19, 2019

EARLY REGISTRATION ENDS IN JULY 15, 2019

Vacuum arcs are a concern in nearly every vacuum device under electric field; consequently, they are present in a very wide range of applications. Sometimes vacuum arcs form the basis for device operation, but all too often they are the primary failure mode. Understanding the physical processes of a vacuum arc requires expertise from many disciplines – materials science, surface physics, and plasma physics. Applications include high-voltage electronics, RF accelerators, electrostatic accelerators and vacuum interrupters. The purpose of this workshop series is to bring together scientists and engineers from many different disciplines and application areas to discuss the latest efforts in understanding vacuum arcs. We cover theory, simulation and experiments. This Workshop edition is hosted by the Consorzio RFX.



Applications

- High Gradient Accelerators
- Discharge-based Devices
- Electrostatic Failure Mitigation
- Vacuum Interrupters
- Satellites
- Fusion relevant Applications

Field Emission

- Tunneling Theory
- Fowler-Nordheim Models
- Thermionic Emission
- Field Emission from "Real" Surfaces
- STM/AFM/SKPM Measurements

Experiments and Diagnostics

- Vacuum Arcs
- RF and DC Breakdown
- Materials
- Advanced Diagnostics
- Technologies for High Gradients

Modeling and Simulations

- Arc Initiation and Evolution
- Plasma-Wall Interactions
- Surface Damage and Evolution
- Surface Modification from E and B Fields
- Dislocation Activity
- Cavity Condition and Evolution
- Numerical Methods (PIC-DSMC, MD, KMC, etc.)

ORGANIZERS

Yinon Ashkenazy (yion.ash@mail.huji.ac.il),
Hebrew University of Jerusalem, Israel

Sergio Calatroni (sergio.calatroni@cern.ch),
CERN, Switzerland

Antonio De Lorenzi (antonio.delorenzi@igi.cnr.it),
Consorzio RFX, Padova, Italy

Flyura Djurabekova (flyura.djurabekova@helsinki.fi),
University of Helsinki, Finland

Matthew Hopkins (mmhopki@sandia.gov),
Sandia National Laboratories, USA

Christopher Moore (chmoore@sandia.gov),
Sandia National Laboratories, USA

Walter Wuensch (walter.wuensch@cern.ch),
CERN, Switzerland



Workshop email: mevarc2019@igi.cnr.it