



# X-band and high-gradient events and opportunities



## 7TH INTERNATIONAL WORKSHOP ON MECHANISMS OF VACUUM ARCS (MeVArc)

<https://indico.cern.ch/event/680402/>



**SHERATON OLD SAN JUAN HOTEL  
PUERTO RICO  
MAY 21-24, 2018**

**EARLY REGISTRATION: FEBRUARY 16, 2018**

Vacuum arcs are a concern in essentially every vacuum electronic device. Sometimes they form the basis for device operation, but all too often they are the primary failure mode. They are often described as high voltage breakdown (HVB) and electrostatic discharge (ESD) as well. The purpose of this workshop is to bring together scientists and engineers to discuss the latest improvements in our understanding of vacuum arcs, including their initiation and evolution.



**Technical POCs**  
Matt Hopkins - [mmhopki@sandia.gov](mailto:mmhopki@sandia.gov) or Chris Moore - [chmoore@sandia.gov](mailto:chmoore@sandia.gov)

**EXPERIMENTS**

- Vacuum Arcs
- DC Spark Systems
- Materials
- Diagnostics
- Technologies for High Gradients
- Arcing in Fusion Devices

**THEORY AND SIMULATIONS**

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

**APPLICATIONS**

- Discharge-Based Devices
- Particle Accelerators
- Electrostatic Failure Mitigation
- Fusion Devices
- Satellites
- Other Industrial Interests

**ORGANIZERS**

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**SINAP**

**June 4-8, 2018**  
Shanghai Institute of Applied Physics,  
Chinese Academy of Sciences  
SINAP, Shanghai, China

**International Workshop on Breakdown Science and High Gradient Technology**

**HG2018**

<https://indico.cern.ch/event/675785/>

**Meeting Chair**  
Zhenzhang Zhao

**International Organizing Committee**  
Walter Wuensch (CERN)  
Toshiyuki Inigo (KEK)  
Gerardo D'Amico (INFN)  
Yue Guo (ANL)  
Jian Guo (Beihua University)  
Vasily Dolgashov (SLAC)  
Angela Passafiume (LAL)  
Wencheng Fang (SINAP)

**Local Organizing Committee**  
Wencheng Fang  
Chang Gu  
Zhenzhang Zhao  
Wenping Qi  
Jianhao Tan  
Xiaoxia Huang

CLIC Workshop 2017 (6/10) - Xbox | Accelerator Rese

**ARIES**  
Accelerator Research and Innovation for European Science and Society

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**FACILITIES OFFERING TNA**  
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Xbox  
APOLLON  
LPA-UH100  
LULAL

**Xbox**

The Xboxs are klystron-based X-band test stands located at CERN in Geneva, Switzerland. The test stands are dedicated to the testing and development of high-gradient accelerating structures and high-power rf components. At present there are three Xboxos: two with each powered by a 50 MW/1.3µs/50 Hz klystron and the third is powered by four 6 MW/5 µs/400 Hz klystrons combined in pairs. These Xboxos were constructed and are being used to high-power test the main linac accelerating structures and novel rf components for the Compact Linear Collider (CLIC). The test stands are just as useful for developing high gradient and power structures for X-band FELs, Compton/Thomson sources and as potential RF units in linacs.

**TRANSNATIONAL ACCESS**  
Facilities offering TNA  
Eligibility  
Application and follow-up  
TNA user e-registration

**Features**

- 3 x klystron-based X-band (11.994 GHz) test stands
- 6 x fully powered and instrumented testing slots
- Support infrastructure eg: radiation shielding, water cooling, vacuum etc.

**Support offered**

## XBox Trans National Access

<https://aries.web.cern.ch/content/xbox>