

Workshop mission

International Workshop on
Breakdown Science and High
Gradient Technology

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Background

- 6th meeting in the series
 - “X-band Accelerator Structure Design and Test Program”
- Since 2007
 - being held annually by CERN, SLAC and KEK
- X-band accelerator structure
 - operated at a very high gradient, nominally 100 MV/m for CLIC.
- The present workshop
 - Discuss in the spirit of this series of meetings
 - But also focus on vacuum arc phenomena
 - Reflecting the importance of understanding and suppressing the vacuum breakdowns to realize a high gradient machine

Discussions

- Accelerator structure design and high gradient test
- Physics of the breakdowns and the suppression ideas
- Status and plans of high power facilities
- Engineering R&D's on accelerator unit
- Key components: high-power RF handling, power conversion from beam to RF, etc.
- Application of the high-frequency RF in practice and the possibility

Goal of the workshop

- **Target**

- High frequency acceleration in high gradient

- **Illuminate and identify**

- Supporting **studies, developments** and **collaborations**

- **Physics** behind vacuum arcing

- High gradient **test programs** directing to CLIC application

- High gradient **test programs** to study basic physics mechanism

- **Applications** in actual accelerators to form a base of background technology