

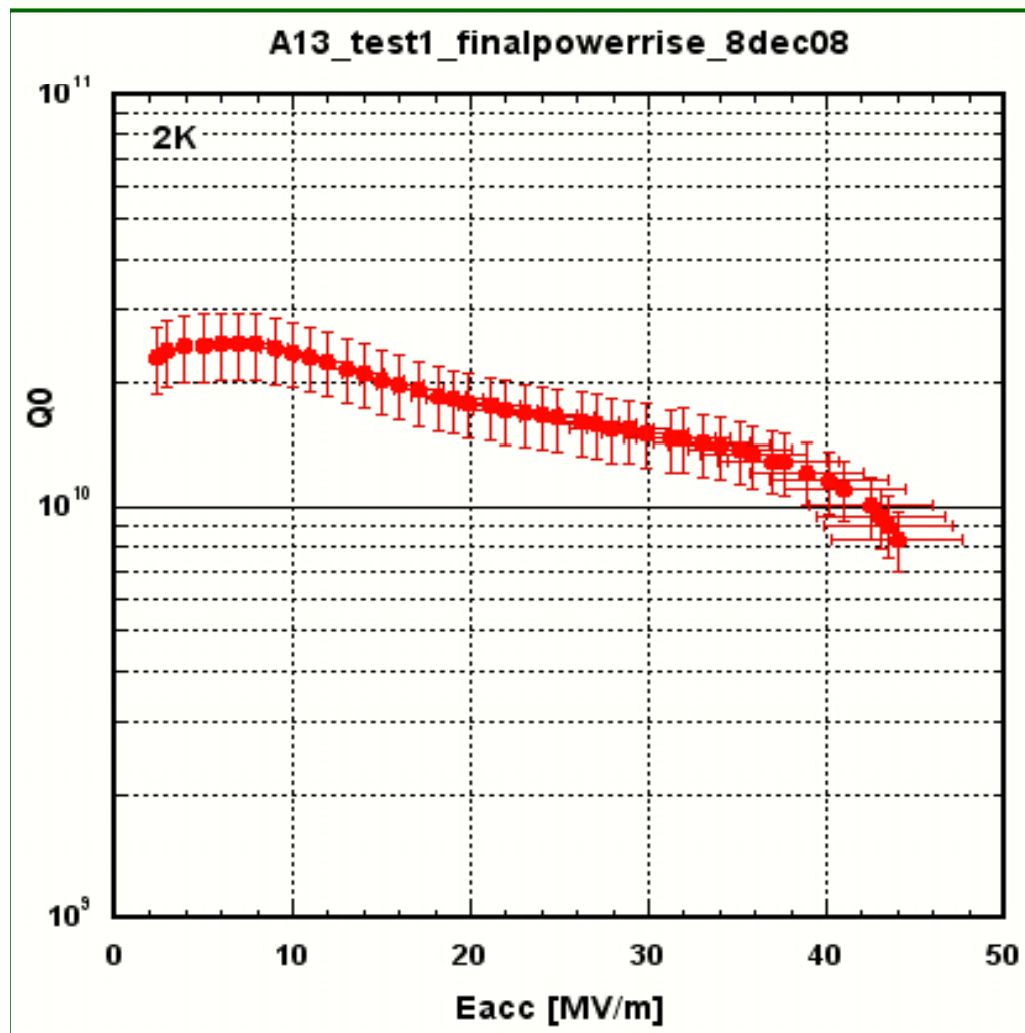
# **Update on S0 Work in the Americas Region**

**Mark Champion**  
**16 December 2008**

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# Accel 13 achieved ~44 MV/m with one processing cycle at Jefferson Lab



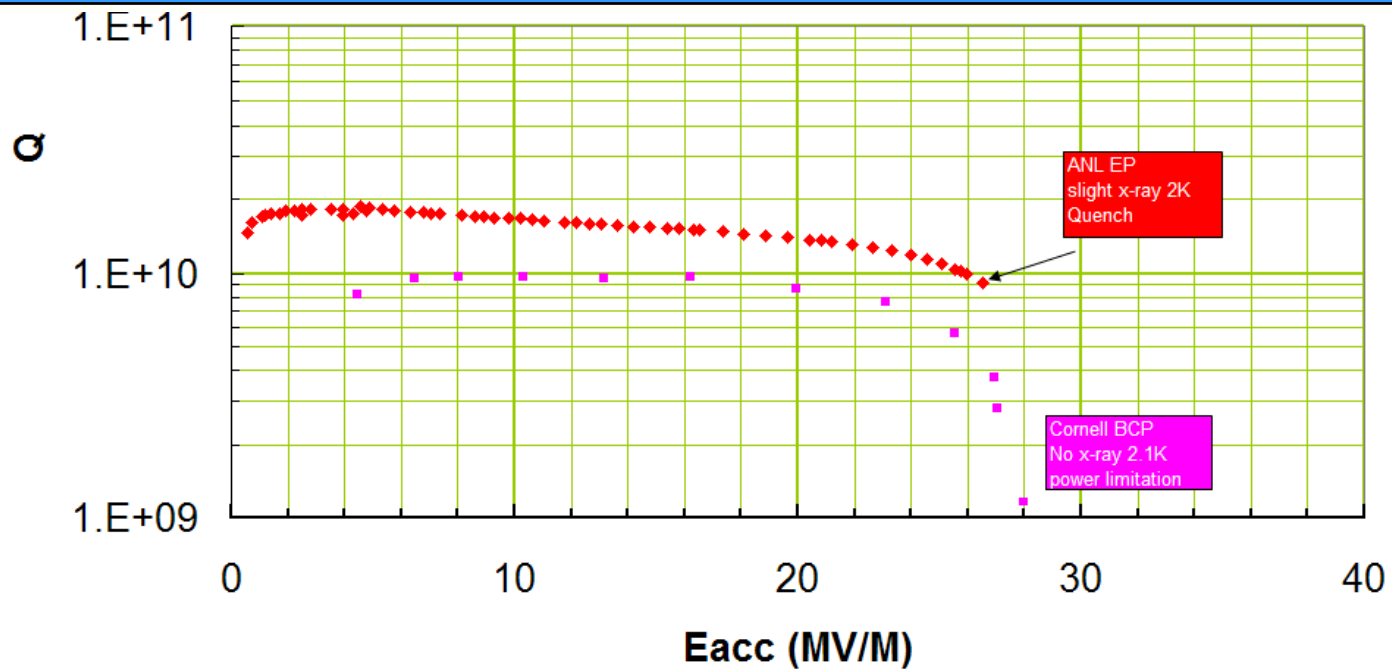
- 150 um bulk EP + 20 um light EP
  - 170 um total EP
- Field flatness 96.5%
- 120 C bakeout included
- Will be delivered to FNAL under vacuum
- Some field emission
  - Test stopped due to safety system detection of neutrons
- Accel 14 received bulk EP Dec 14
- Accel 12 ready for test (?)
- JLab ready for two more nine-cell cavities in January
  - Will probably send new AES cavities



- **Nine-cell cavity fitted to HPR tool and rinsed Dec 12**
- **Nitrogen gas system ready this week**
- **Vacuum system to be tested this week at FNAL**
- **Ultrasonic cleaner operational last week**
  
- **Primary tasks remaining before complete single-cell processing:**
  - **Install and commission vacuum system**
  - **Sanitize ultrapure water system**
  - **Perform final cleaning of clean room**
  - ...
  - **Expected in January**
- **Additional tooling in progress to support complete nine-cell processing**



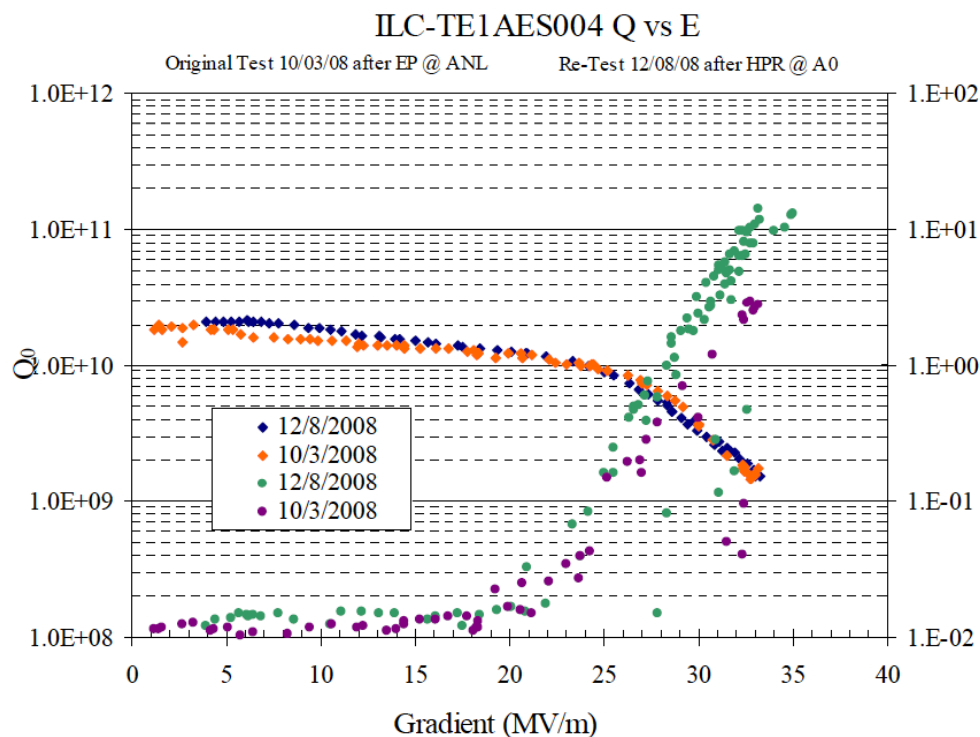
- **Two nine-cell cavities received from AES**
  - **Another four expected in next month**
- **Six single-cell cavities completed at Accel**
  - **To be shipped next week**
- **AES1 returned from KEK**
  - **Helium vessel to be installed early next year**
  - **To be followed by testing of dressed cavity in horizontal test system**
- **Questar long-range microscope received and being set up for single-cell cavity inspections**
- **Kyoto/KEK optical inspection system delivery expected next week**
- **3.9 GHz cryomodule cavity string assembly started last week**
- **Two single-cell cavities tested recently (results follow)**
- **Plan to electro-polish another single-cell cavity in early January**



- Electro-polished ~90 um at Argonne
- Ultrasonically degreased, high-pressure rinsed, assembled at FNAL
- Limited to ~26.5 MV/m by field emission and quench



# Single-cell AES4 tested Dec 8 at FNAL



- **Electro-polished ~65 um at Argonne**
- **Ultrasonically degreased, high-pressure rinsed, assembled at FNAL**
- **Limited to ~33 MV/m by field emission**
- **No improvement between 1<sup>st</sup> and 2<sup>nd</sup> tests even with additional high-pressure rinsing between tests**