Status of Nine-cell Cavities in Europe

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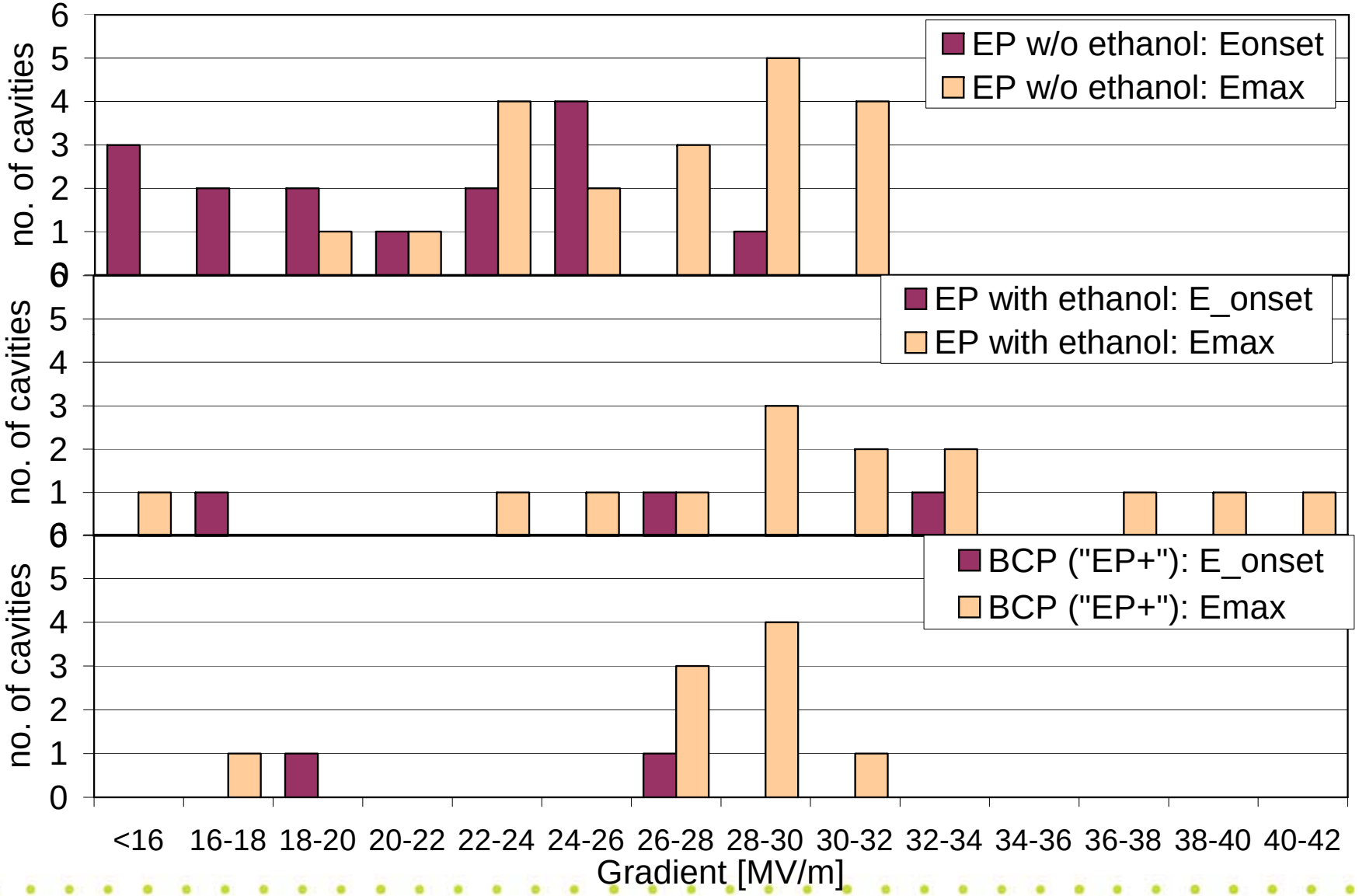
DESY

Overview on S0 relevant work

- Analysis of 4th production
  - **30 cavities**
  - **Ethanol rinse and short etching**
- Beginning to test 6th production
  - **(5th production are 3 Large-grain nine-cells)**
  - **30 cavities**
    - Two manufacturers
  - **Goals**
    - Train companies in EP process
    - validate the final surface preparation for XFEL
      - EP vs. short etch
      - tank welding before vertical test
    - more details in next talk
  - **some cavities have been tested ahead of the standard program**
    - e.g. AC115 Plansee material

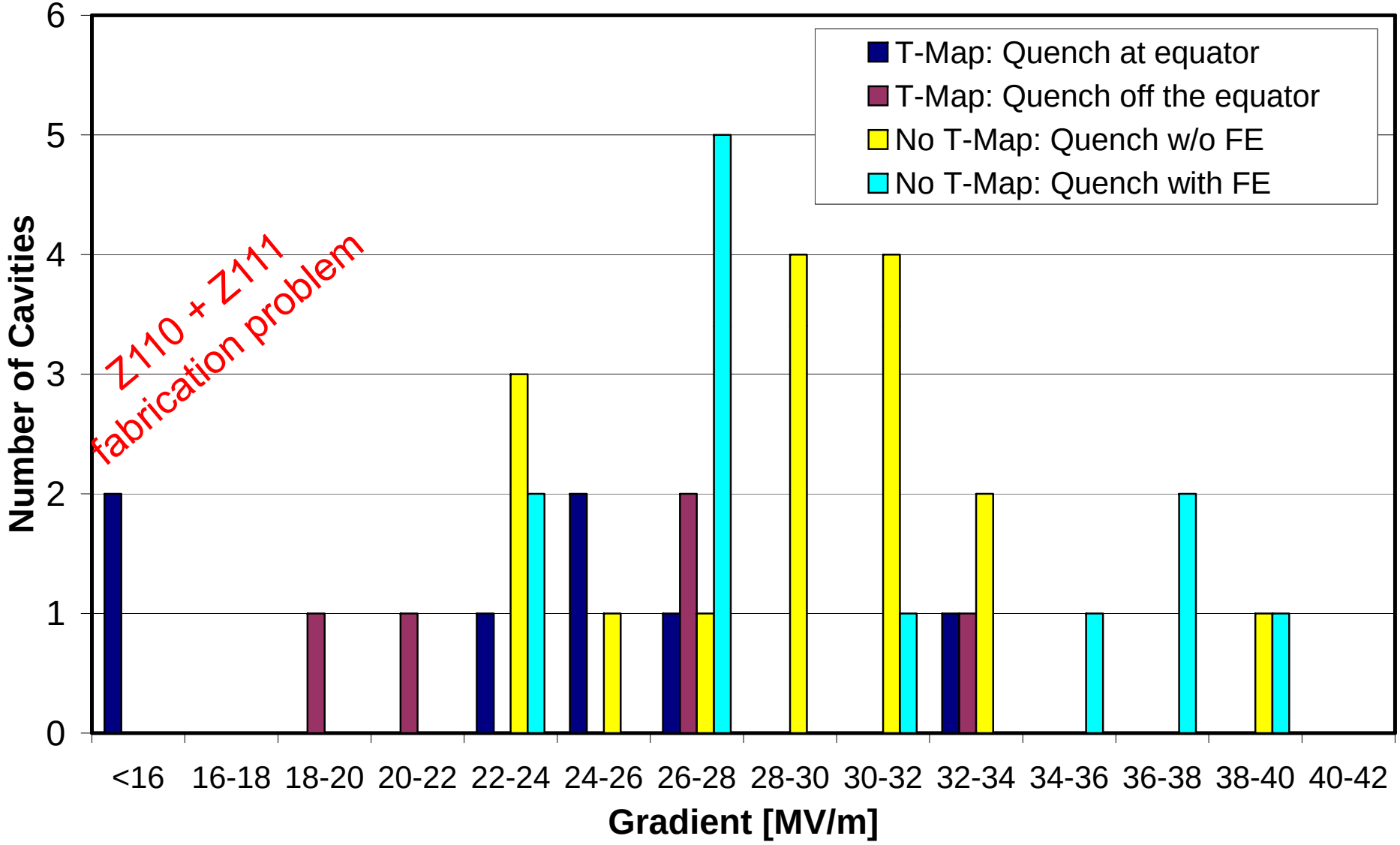
DESY 4th: Field Emission Analysis



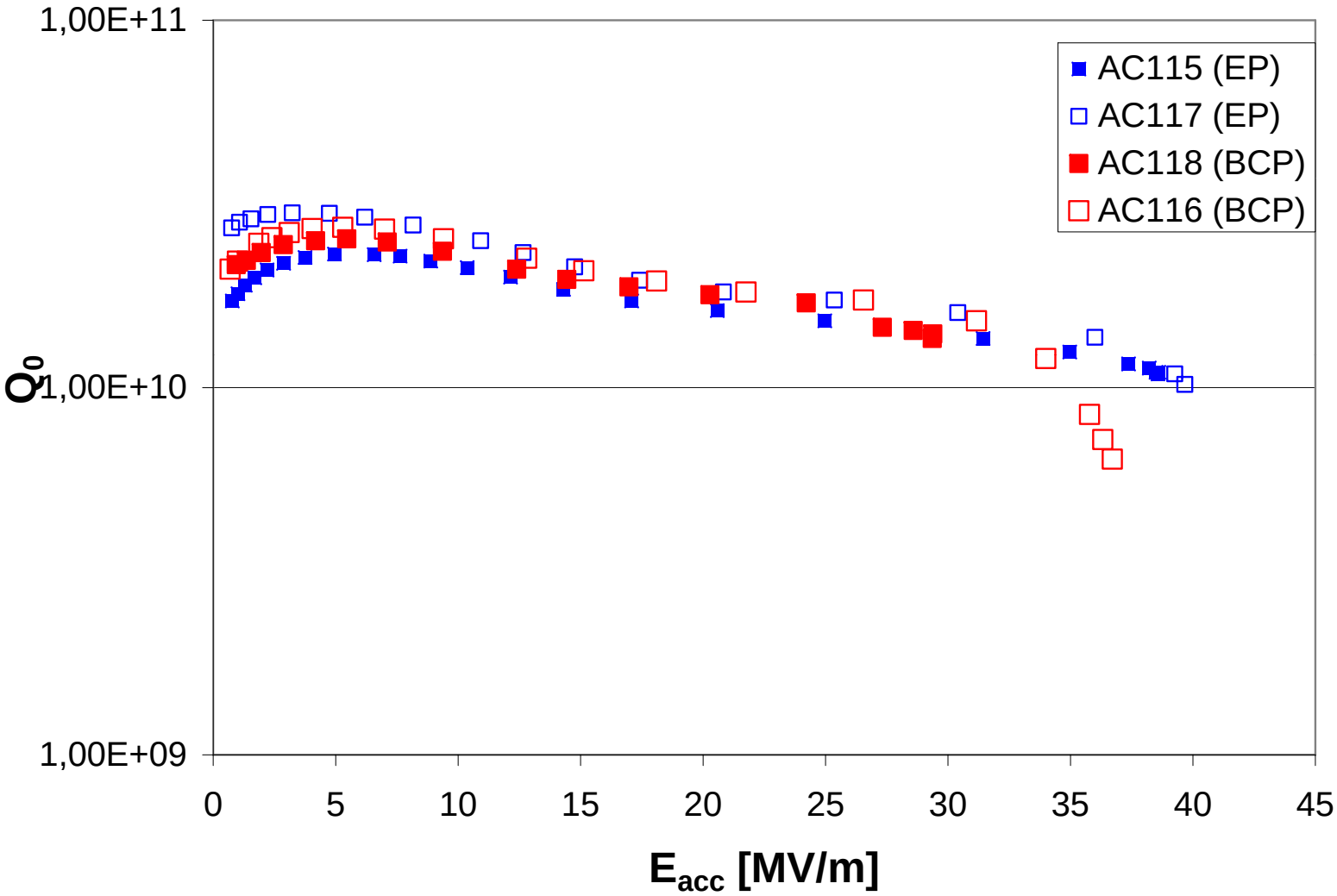
Comments on T-mapping

- Rotational nine-cell temperature mapping system is available
  - **Resolution ~100 mK**
  - **Time-consuming measurement**
- Problems
  - **T-mapping not systematically applied for all cavities**
  - **Normally on pi-mode is t-mapped**
  - **In most cases subsequent optical inspection did not yield a result**
    - Old system for optical inspection, not comparable with the Kyoto/KEK system

Analysis of Quenches 4th Production



6th Production: First data



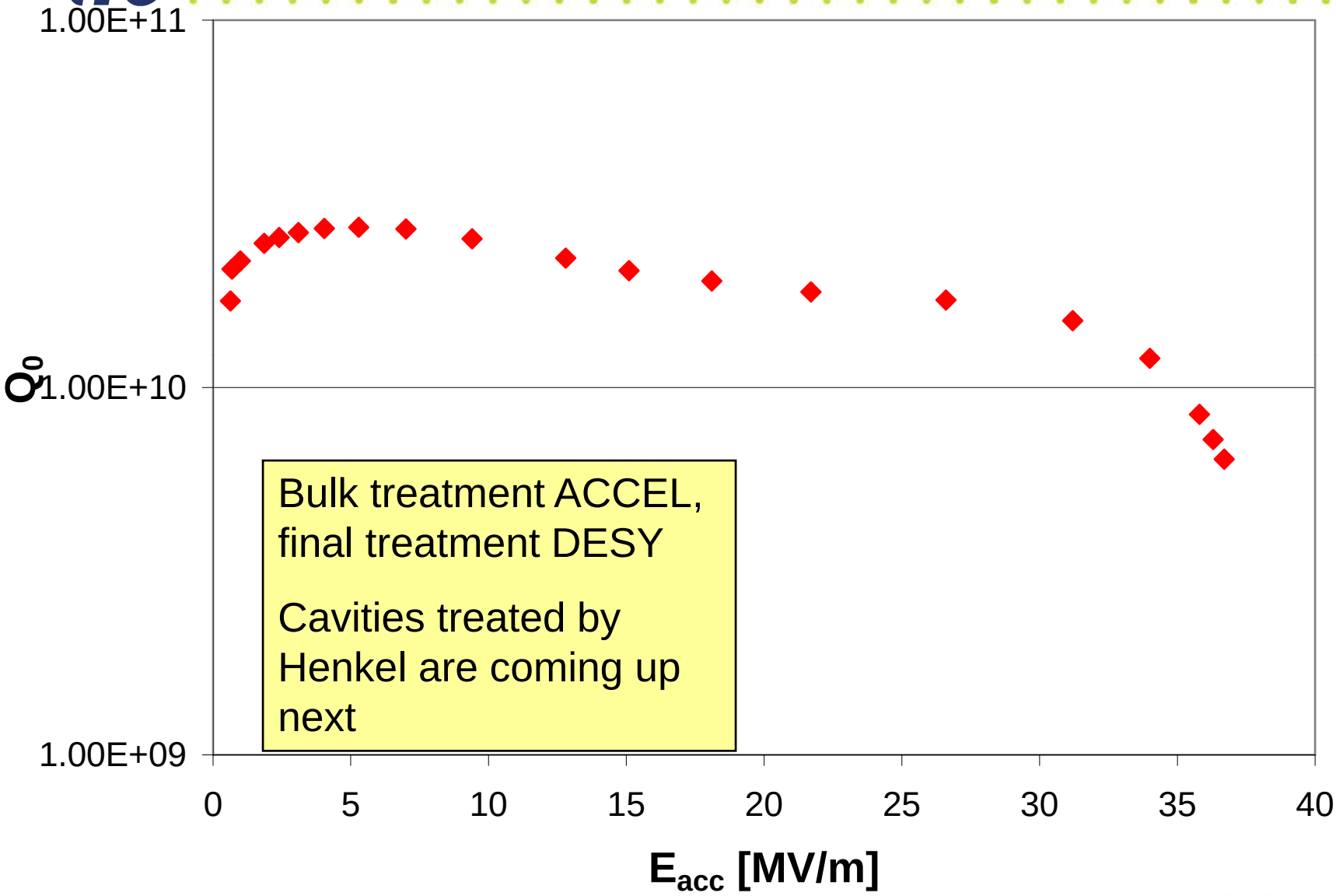
- 2 EP and 2 BCP cavities

6th Production: Comments

- Good initial results
  - **Plansee material (1 cavity)**
  - **First cavity with bulk EP in Industry**
    - Running smoothly after initial difficulties
- But:
  - **Need to get more statistics on how industrial EP performs**
  - **Optical inspection revealed irregularities in some cavities from one manufacturer**
    - Currently under investigation
  - **At least 20 cavities will be tested after tank welding**
    - No t-map possible

Backup

XFEL Industry EP on Multi-cells



XFEL: Large Grain Multi-cell with EP