Reusing KTeV CsI Crystals For J-PARC KOTO

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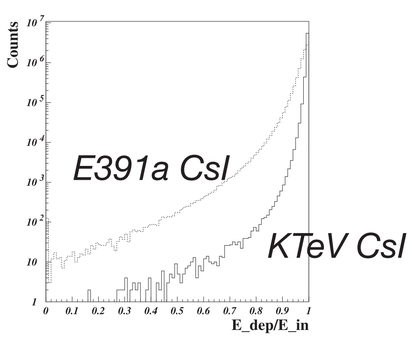
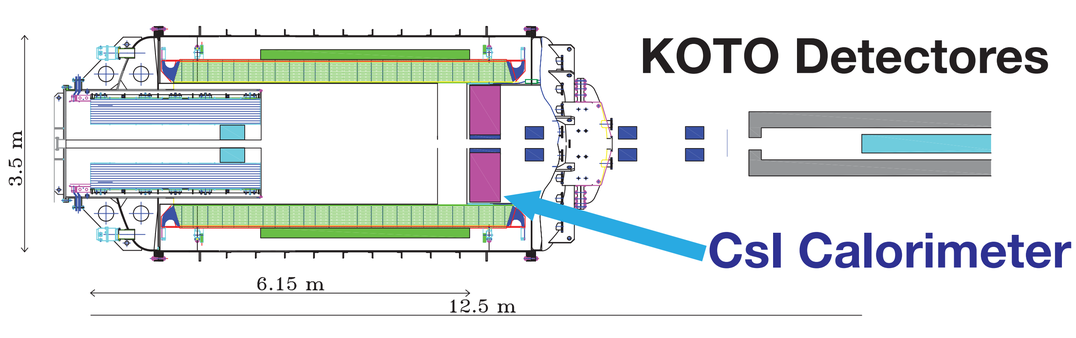
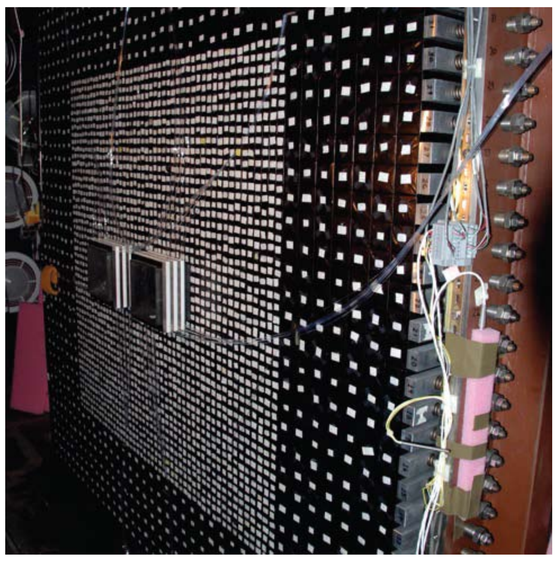
KAON09
on June 09(Tue) ▸ 12(Fri), 2009
at EPOCHAL, Tsukuba, Japan

Introduction

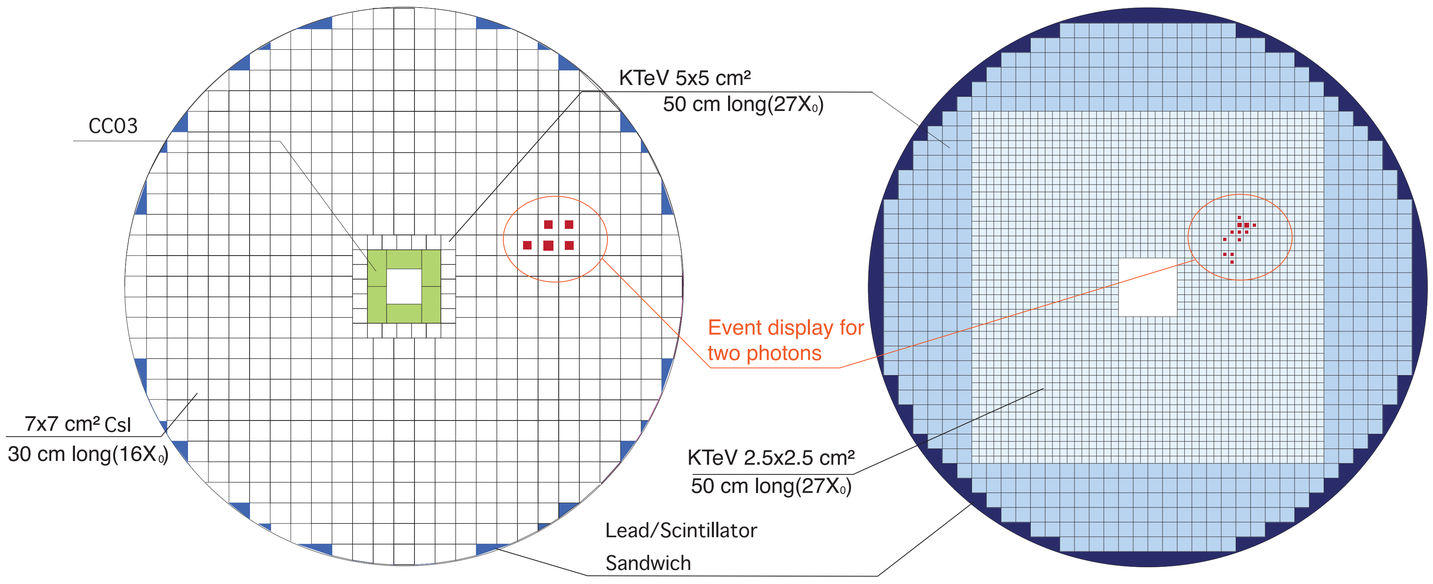
KOTO experiment will reuse the CsI crystals which were used at KTeV experiment to improve the position and energy resolutions.







KTeV

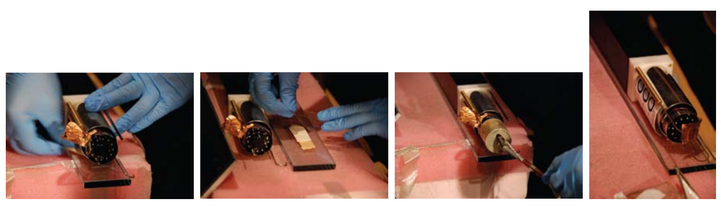


E391a

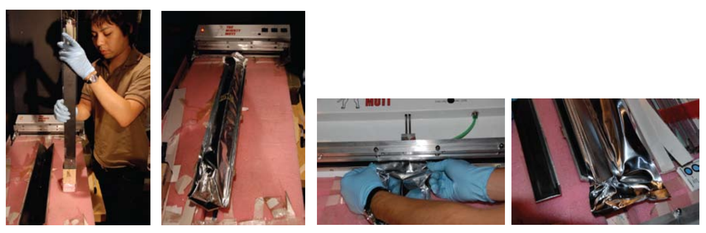
KOTO

Unstacking and Packing all of the KTeV CsI in 2008

1. Place a crystal on a glass plate to keep it flat.

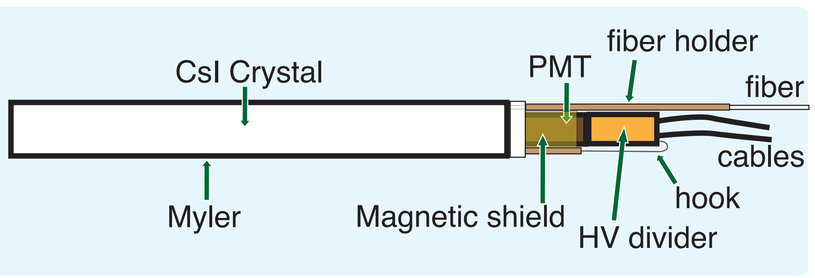


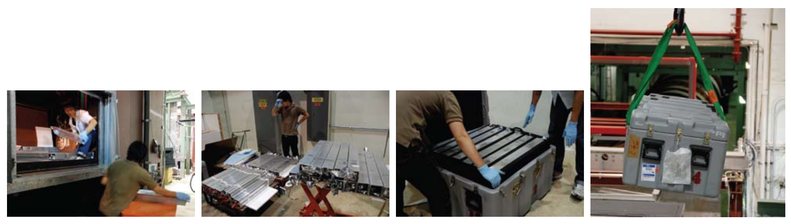
2. Insert a spacer underneath a mumetal shield.



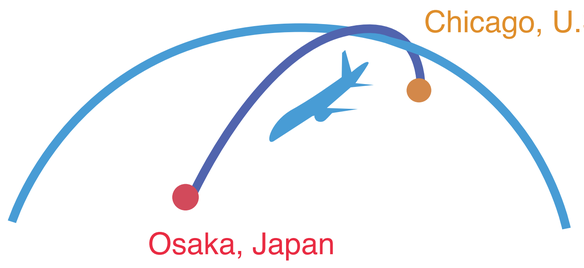
3. Vacuum pack the crystal to avoid moisture.

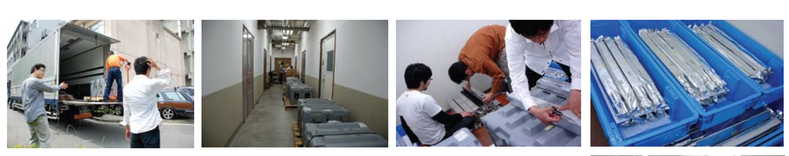
4. Protect crystal with two Al angles with rubber cushions.



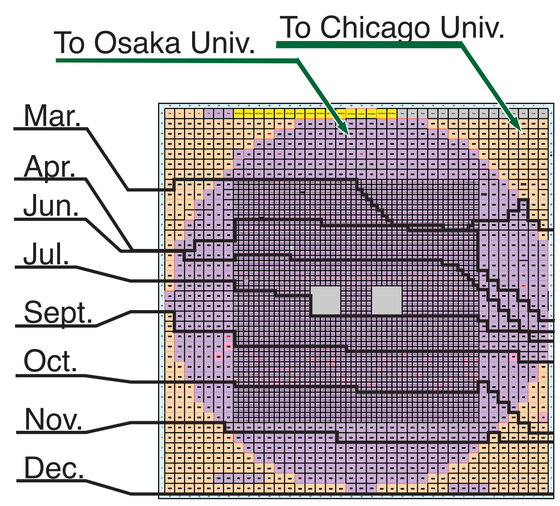


5. Pack them in air freight cases.





6. Carry crates into our dry room and stack crystals in trays.



Difference between KTeV and KOTO CsI Calorimeters

- Environment: Dry Room → Vacuum tank
  No easy access
  - Reliable structure to hold PMT
  - Low power Cockcroft-Walton base for PMT
- Figure: Square → Circular
  - Fill the gap between the CsI and the cylinder with Lead/scintillator sandwich detector.