**FCalchik Packing List**

1 – FCalchik – calorimeter module  
2 – Excluders – to displace liquid argon  
1 – FCalchik Table – to hold FCalchik and excluders  
1 – Argon gas purifier  
1 – Flow Meter Assembly – to regulate getter  
4 – Hanger Rods – to hold table  
2 – 3/4” End Wrench – for purifier connections  
1 – Hand Drill – for FCalchik repair  
1 – Roll Plastic Wrap – to cover FCalchik and assembly when not sealed in cryostat  
24 – Rubber gloves – for handling FCalchik and assembly  
12 – Wipes – to clean pieces/FCalchik repair

1 – Red Toolbox (Following in Toolbox)  
   1 – 9/16” End Wrench – for purifier connections  
   1 – ½” End Wrench – for purifier connections  
   2 – Pinning tools (Double and single) – to repair broken pins on FCalchik module  
   2 – ¼” x 10mm copper tube coupling – to adapt to IHEP plumbing  
   4 – Swagelok VCR Copper gaskets – for purifier connections  
   6 – 20cm long x 250micron PEEK fiber – to repair FCalchik module  
   6 – 20cm long x 100micron PEEK fiber – to repair FCalchik module  
3 - FCalchik Base Kapton sheet – electrically insulate FCalchik from table  
Est. 1000 – Pins – to repair FCalchik module  
Est. 200 - Brass Washers – to repair FCalchik module  
Est. 200 - Kapton Washers – to repair FCalchik module  
2 – boxes (100 per box) Pinhole Swabs – to clean pin holes during repair  
1 – bag (est. 50 count) Tube Swabs – To clean tubes during repair  
2 – 100micron gap copper rods – for FCalchik repair/replacement

**Box of Electronics**  
1 – HV distribution box – electronics for FCalchik  
1 – 3m copper braid – For grounding electronics  
1 – wiring harness – to readout signals from the FCalchik  
1 – bag jumper wires/pins

**Possible Removal from box**  
4 – M6-1.00 Bolt – For Excluder Assembly  
4 – M6-1.00 Nut – For Excluder Assembly  
8 – M6 Washer – For Excluder Assembly  
8 – M10-1.5 Nut – For Table/Hanger assembly  
1 – Adjustable Wrench – FCalchik cryostat assembly  
1 – Tube Cutter  
1 – Small Vice Grip – for FCalchik repair  
Est. 50 - Cable ties – Hold FCalchik to table
1 – Wire cutter – for FCalchik repair

FCalchik
Excluders (2)
Table
Hanger Rods (4)
Hanger Rod Nuts (8)
Excluder Nuts/bolts/washers

Shows Excluder bolts
Shows Hanger rod nuts
Top View of FCalchik
FCalthik Base Kapton (similar to that shipped)
Cable Ties (similar to those shipped)

End Wrenches
Adjustable Wrench – Similar to that shipped
Double Pinning Tool
Small Vice Grip
Wire Cutter

Kapton Washers
Brass Washers
Pins
Wipes
Rubber Gloves

Box of Pinhole Swabs
Bag of Tube Swabs