DHE – Detector Head Electronics

Monsoon

80mm Crate

Heat Shield
Crate with shield

20 MIL COPPER WITH 1/4” TUBING SOLDERED ON INSIDE

MULTIPLE LAYERS OF INSULATION ATTACHED TO INSIDE (NOT SHOWN)

DELRIN STIFFENERS AT EDGES
Shield removal

SHIELDS LIFT OFF RADially –
AVoids INTERference WITH OTHER PARTS

DELRIN MOUNTS ON BOTH EDGES, BOTH SIDES

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DES Project -- Vaidas Simaitis, University of Illinois
**Crate on Telescope**

**ABSOLUTE MAXIMUM DIAMETER**

= 54”

**MAXIMUM DIAMETER ALLOWED FOR CAMERA INSERTION**

= 52”

**SHIELDS LIFT OFF RADIALY**

**FEED-THROUGH BOARD**
Possibly?

- The HEAT SHIELDS can be easily attached AFTER the camera is installed on the telescope.
- This would allow them to be bigger radially, which would provide for more insulation and therefore less radiant heat loss.
- The assumption is that the HEAT SHIELDS would be cooled with water/alcohol at approximately ambient temperature.
- This requires ANOTHER entire cooling installation!
Alternative

• Thermal calculations have not been done yet, because:
• Is it worth it?
• The same shield WITHOUT the tubing for water cooling, but with maximum insulation, is a possible alternative.
• Thermal calculations greatly depend on final shield dimensions, which are yet to be determined.