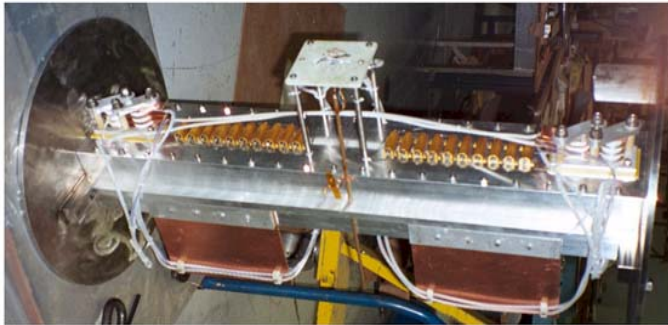


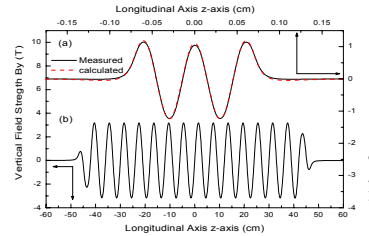
A 3.2 T – 32 POLE – 6.0 cm Period Superconducting Multipole Wiggler for Taiwan Synchrotron Radiation Research Center (SRRC)

Cold Mass Assembly

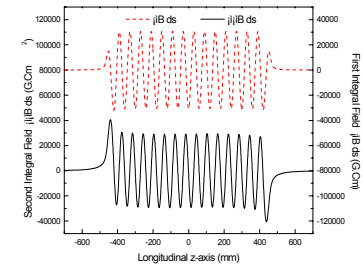


The cold mass assembly was successfully tested at 18 mm cold gap and 12 mm warm gap

Field Features



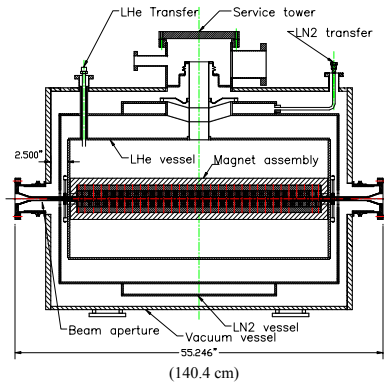
The main vertical field distribution is along the longitudinal direction and on $x=0$, (a) five poles prototype magnet with field measured and calculated and (b) the field calculated in whole magnet.



The first and second integral fields along the electron beam direction.

The integral field distribution on the transverse axis always remains at zero, due to the even pole design. A trim power supply with 0.5 A is in series connection with the first end-pole can obtain the zero first and second field integrals.

Cryogenic System Design

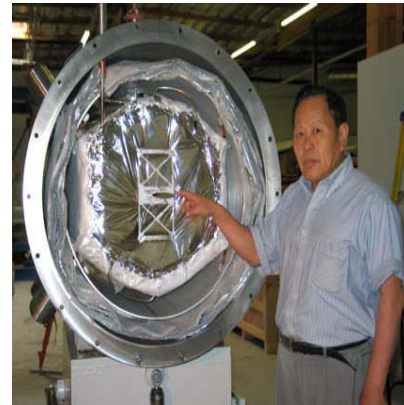


Schematic drawing of the cryostat design.

Budgeted Cryogenic Heat Loads Of Magnet

Heat leak to 4.4 K system- total 1.333 W	
Solid conduction	
from cold mass suspension	76 mW
from 96 instrument wires	15 mW
from penetration tube	230 mW
from vapor cooled leads	910 mW
Radiation from thermal shield	5 mW
Heat leak from beam tube	100 mW
Heat leak to 80 K system- total 11.01 W	
Solid conduction	
Synchrotron radiation	0.1 W
Electron image current	0.2 W
From thermal radiation	2.11 W

Magnet Cryostat Showing Beam Aperture



SRRC superconducting multipole Wiggler (SMPW6) with 32-pole will be installed at the downstream of superconducting RF straight section. The SMPW6 is rather close to the down-stream superconducting RF cavity. It has very low fringing field to the RF cavity.