



Istituto Nazionale di Fisica Nucleare  
LABORATORI NAZIONALI DI FRASCATI



# DUNE-Italia Meeting Update from MAGNET WG and ECAL Measurements Report

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on behalf of the SAND ECAL/MAGNET Working Groups

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# MAGNET New Power Supply Procurement

We want a new Power Supply (PS) keeping the same performances of the old one

to save procurement time, avoiding long EU calls for tenders, we are setting the procurement with 3 partners

Possibly still usable:  
busbars, contactors, dump resistor,  
transformers

Obsolete and/or aged components  
to replace:  
transistors banks, cooling pipe, water  
loss, electrolytic capacitors, electronic  
boards

General Contractor



Power Unit (PU)



Reusable parts revamping  
Assembly with new PU



PS



Quench Detector (?)  
New Control System  
Operational Test

Estimated PS delivery time 6 months  
Possible delivery of PS in  
second half of 2024

Possible PS+Magnet Test  
End of 2024

# MAGNET New Power Supply Procurement



Power Unit on blanket order INFN-CAEN  
8 TDK-Lambda Genesys+ (375A, 20V) in parallel with CAEN-REGUL8OR regulation unit customized with our interlock interface (all USA standard compliant)

Old PS dismantled from Kloe platform and delivered to OCEM for inspections of components possibly saved  
OCEM could also provide its own PU but would not be part of a blanket order.  
We asked a PU quotation for a comparison with CAENels

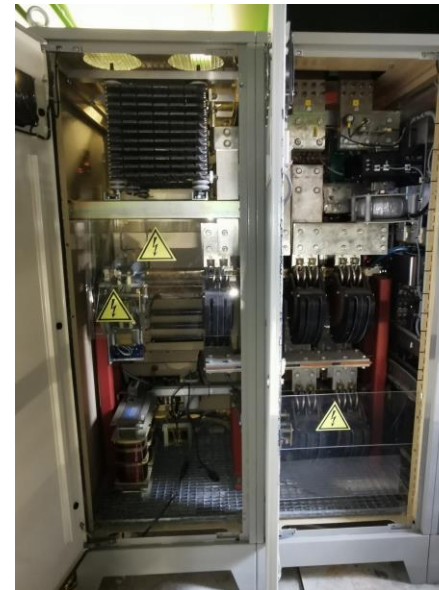


Quench Detector

Dump resistor  
Filter

Bus bars  
Contactors

Power Unit  
Free wheels diodes



KLOE PS Dump resistor and contactors



KLOE PS delivered to OCEM

# Magnet Renovation and Test

Before dismantling and shipping (but after new PS installation) an operational test of the magnet is foreseen to test integration of all parts (PS, Quench Detector, Control System, Software Interface)

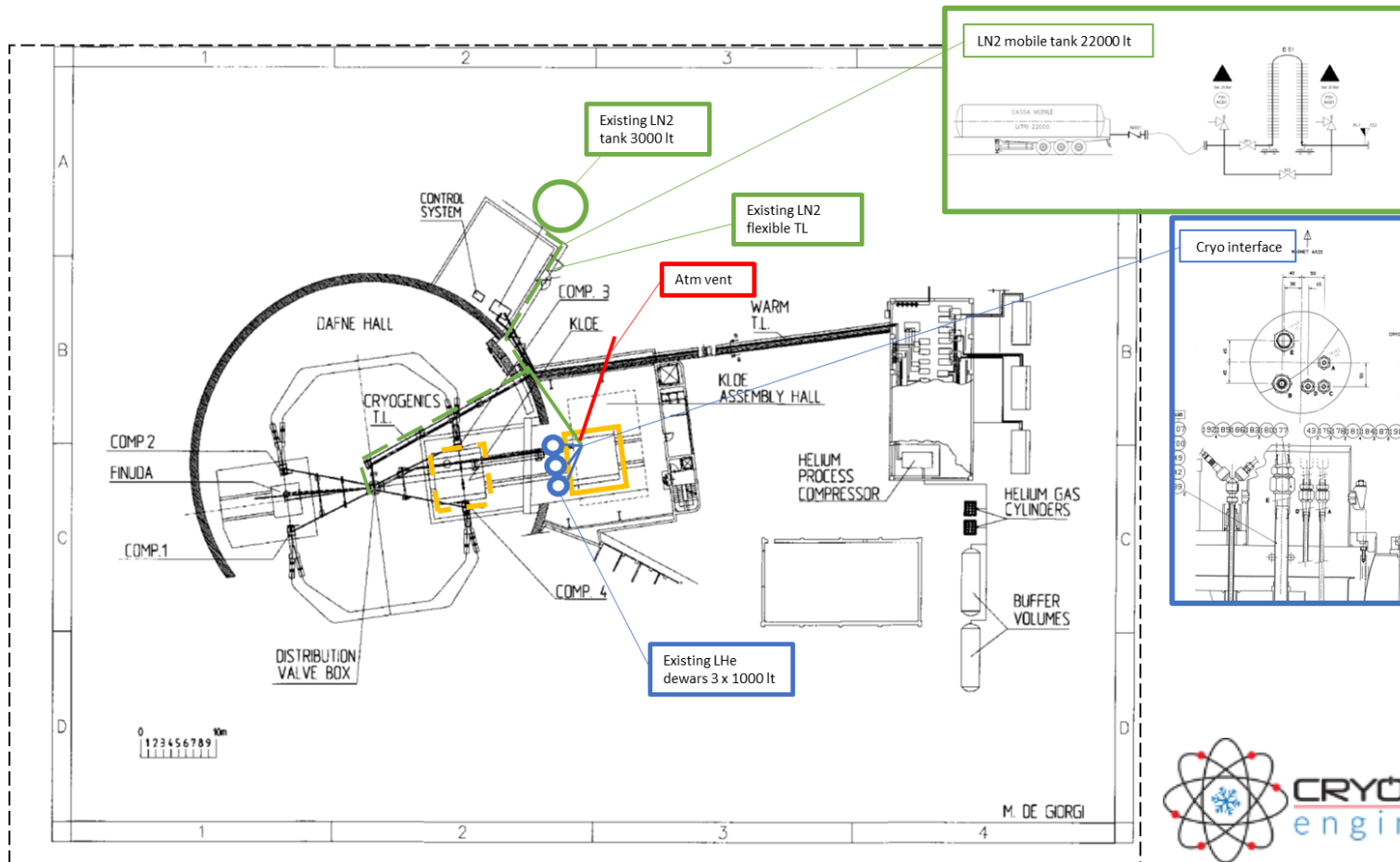
Coil cool-down

36kl LN<sub>2</sub> + 6kl LHe from mobile tanks  
No need for DAFNE cryo plant  
Noncomplex cryo interface  
HW suitable to repeat test in US

Procurement

New cryo interface provided by Cryosystem Engineering (order placed with 2023 funds)

Cryo liquids provided by AirLiquide  
LN<sub>2</sub> funded in 2023  
LHe funded SJ in 2024

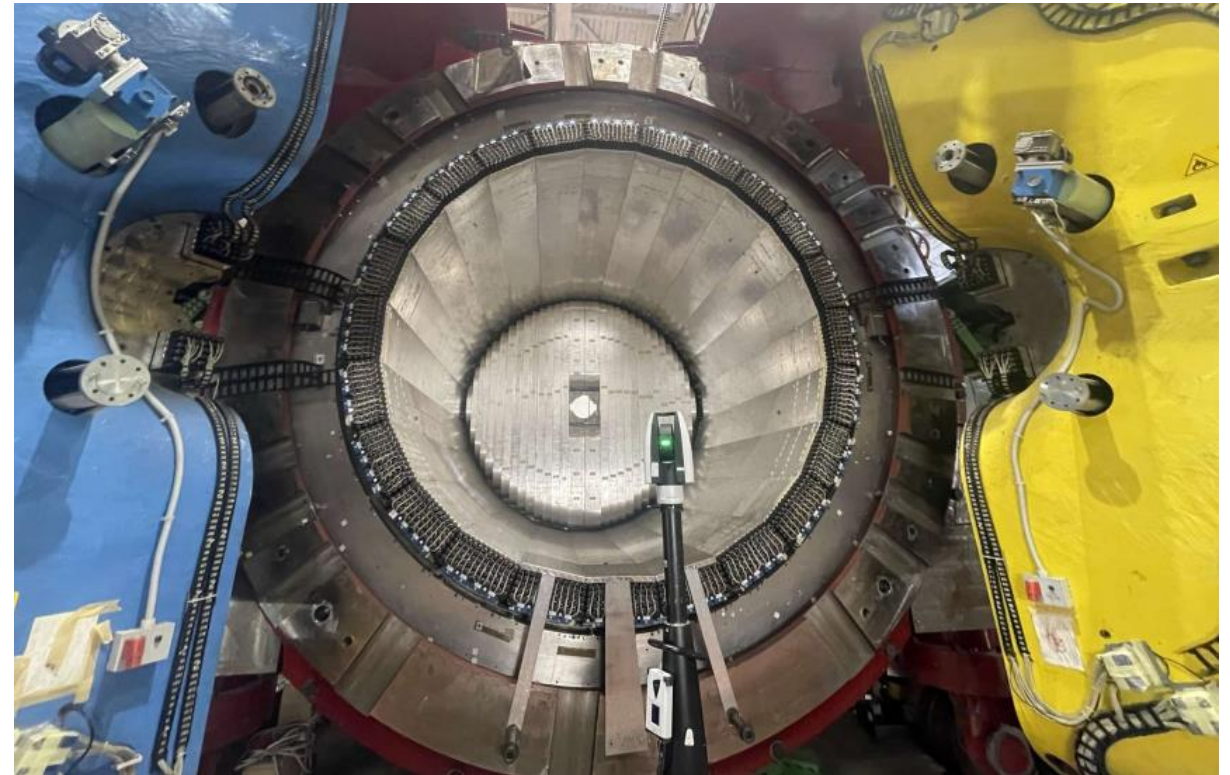




# ECAL Dimensional Inspection Report



Organizzazione con sistema di gestione qualità ISO 9001:2015 certificata da Bureau Veritas Italia Spa



2-6 October 2023

All original measurements available

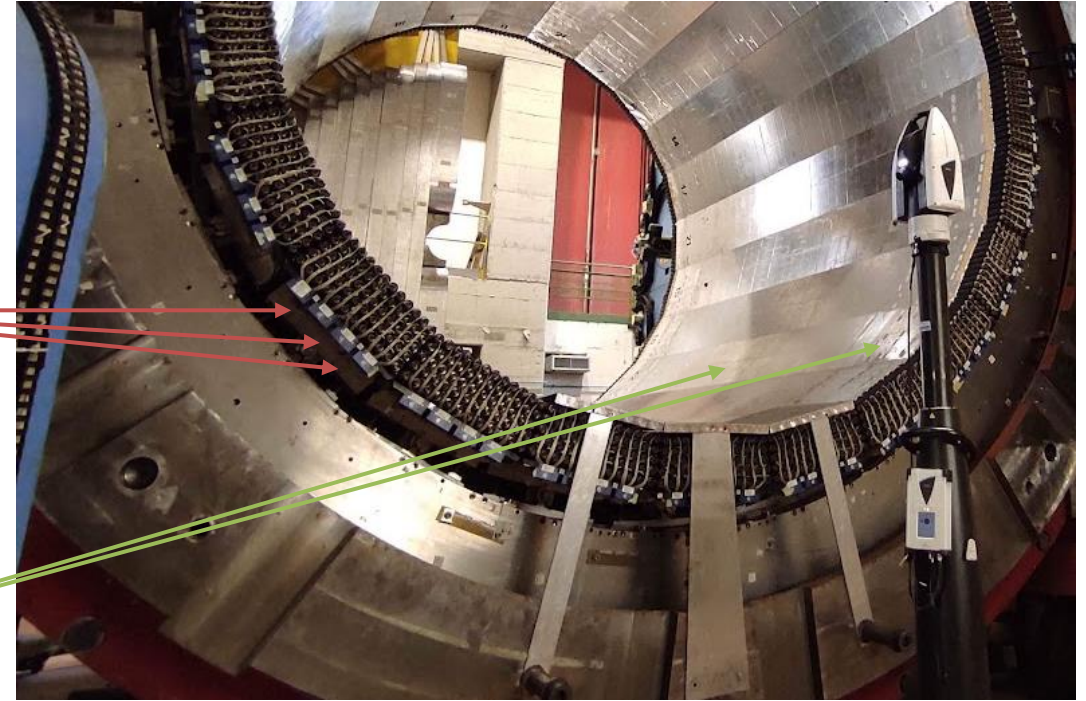
# ECAL Dimensional Inspection Report

Analysis of the distance between

Bottom plane reconstructed by accessible points of the Aluminum plate on both module ends

and

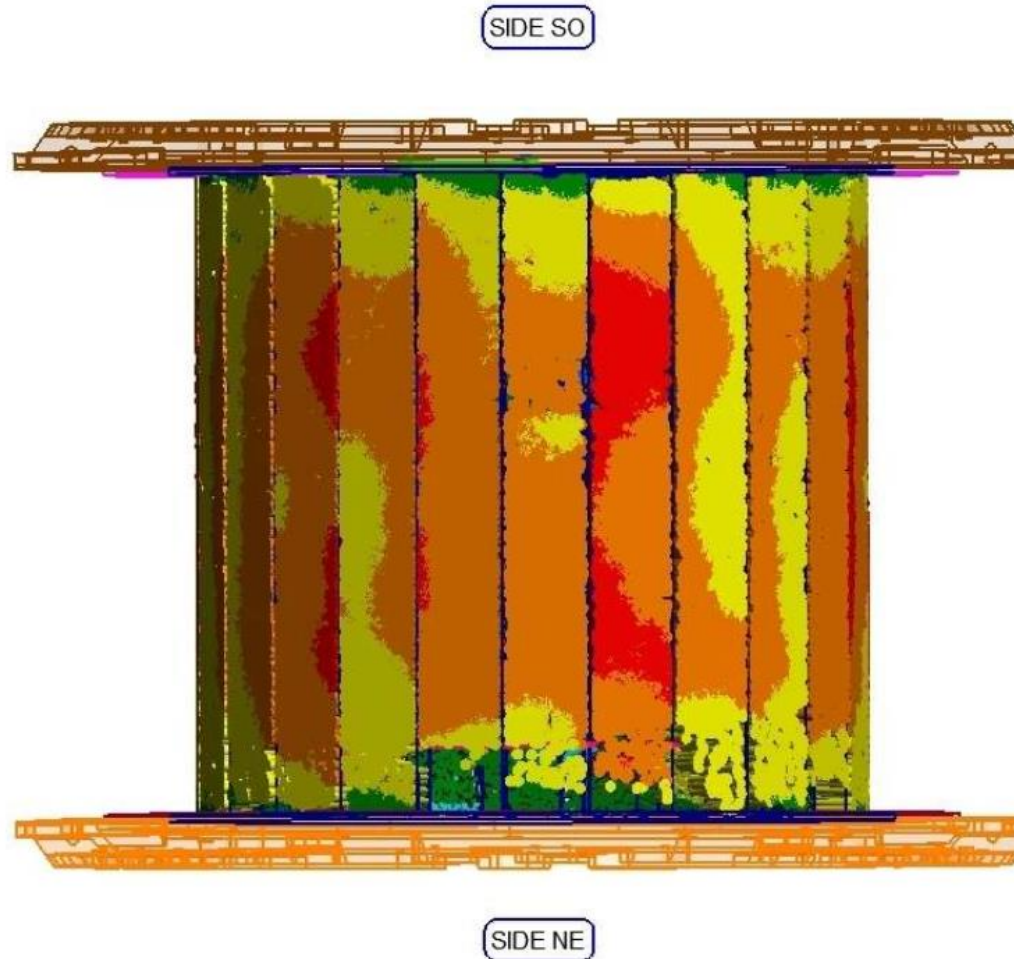
Cloud of points (10x10 mm<sup>2</sup> pitch matrix) measured internally



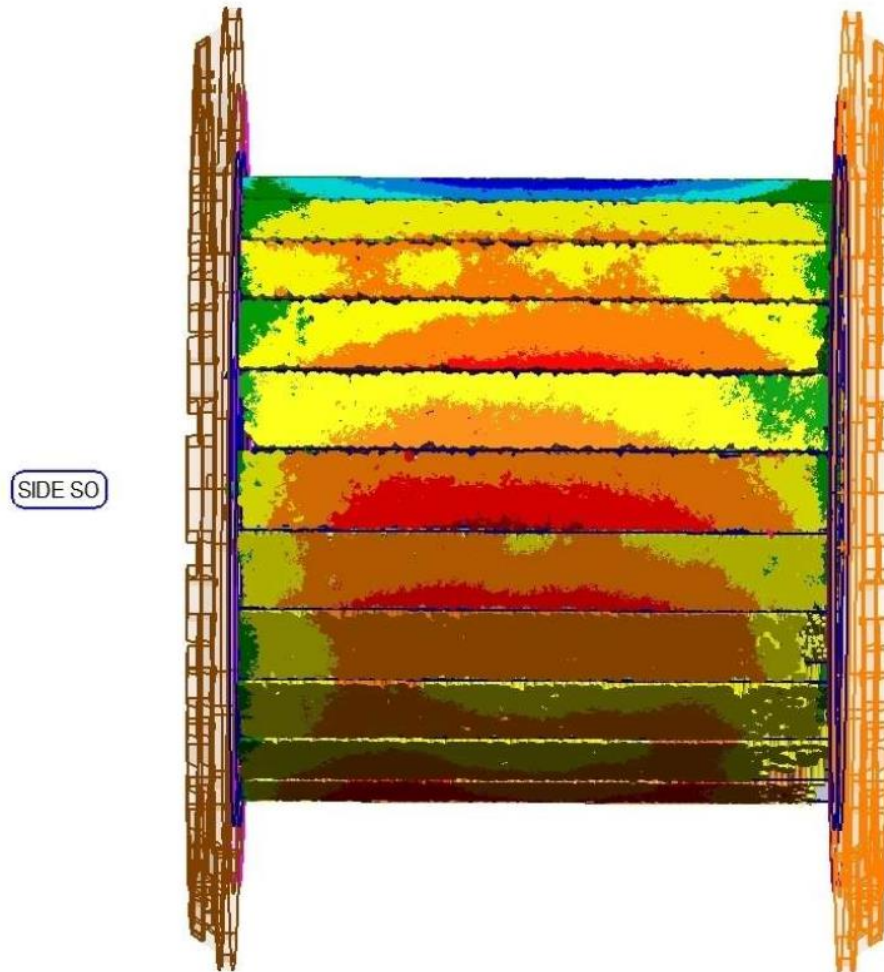
Nominal value should be  
230 mm (Pb+SciFi height)  
+  
25 mm Al plate thickness  
=  
255 mm



# ECAL Dimensional Inspection Report



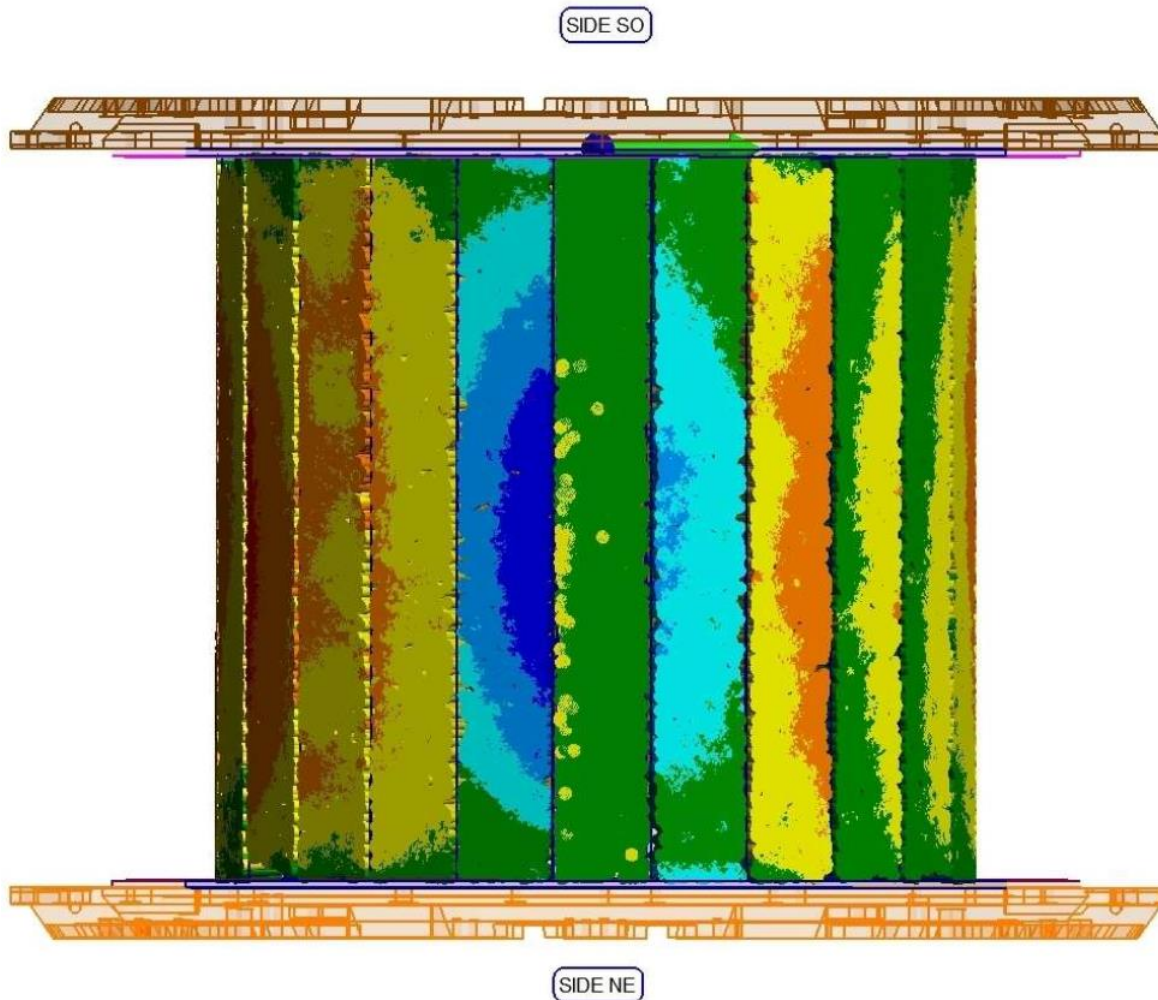
Bottom side



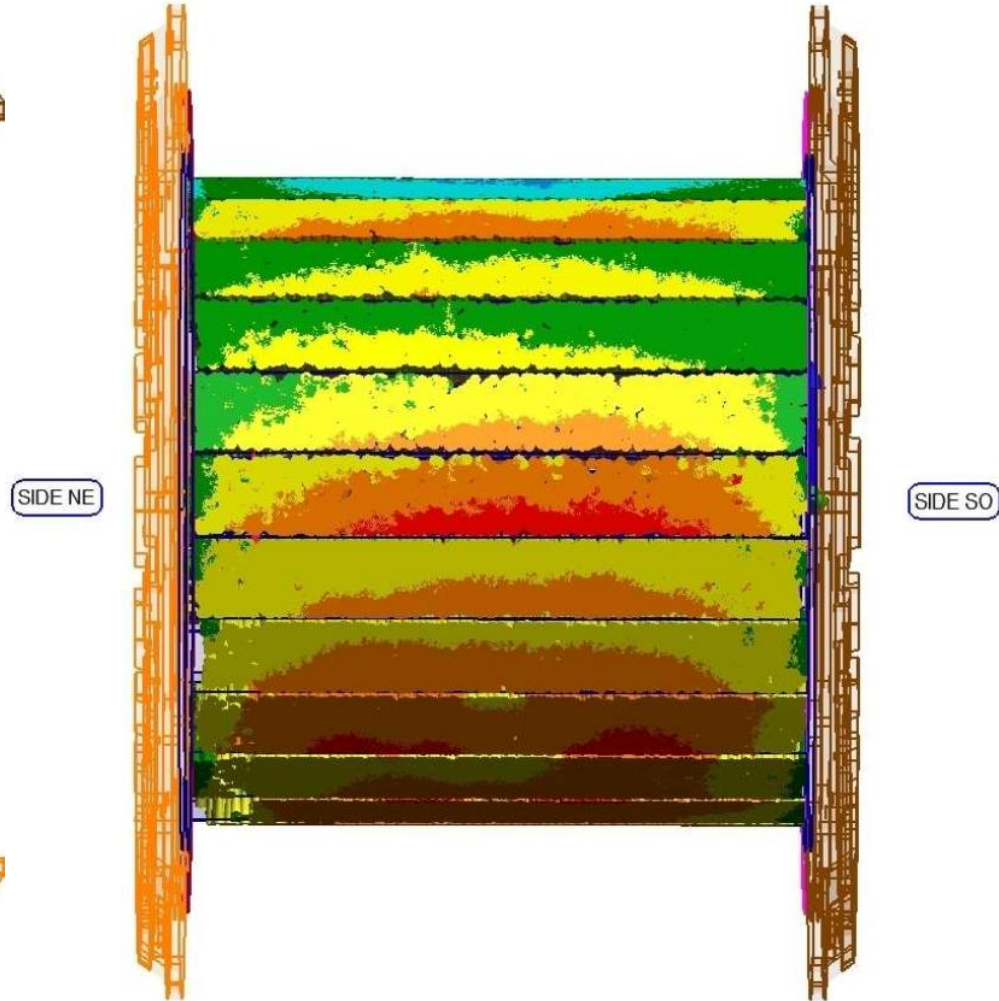
Right side



# ECAL Dimensional Inspection Report



Top side



Left side

