

# Cryomodule Design Status

3<sup>rd</sup> Harmonic

Type III+

T4CM

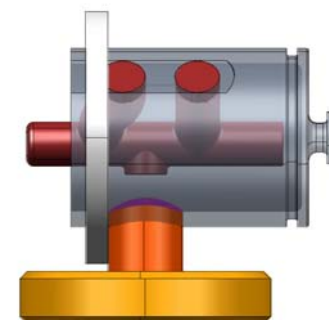
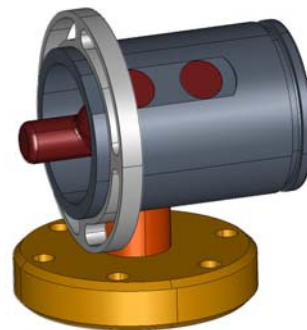
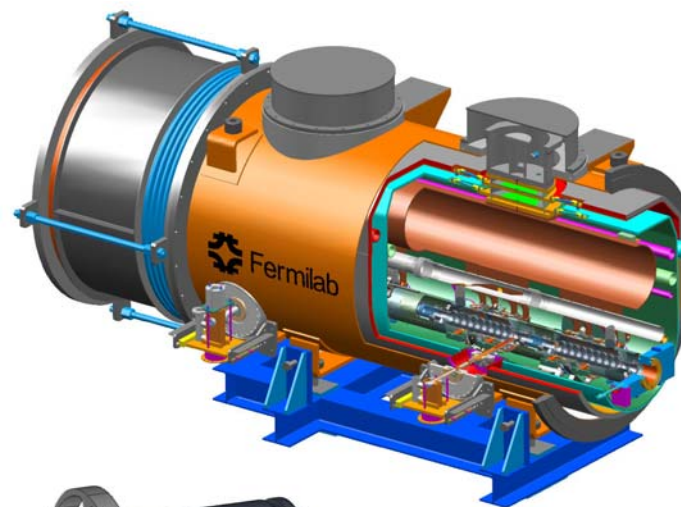
# 3.9 GHz, 3<sup>rd</sup> Harmonic

The design of the major cryomodule components is complete. Components for the cryovessel, helium vessels, bladetuners, magnetic shields, invar rod system, and cold mass supports have been ordered. Some parts are already arriving at Fermilab.

Ordering of the coldmass components such as the HGR pipe, heat shields, and support bearings is on hold while our attention has been on the T4CM design and collaboration. Designs are complete. Final approval to release the design packets will continue in mid-September.

We are currently answering vendor questions on some of these components and making all necessary drawing modifications.

Re-design work is in progress to help solve some of the HOM coupler issues. A new formteil design will be validated with a new copper HOM model.



# Type III+

- No design work to report.
- Complete kit is provided by DESY.

# T4CM

- Completed the 3-D and 2-D *preliminary* CAD package used for cost estimation by FNAL and US Industrial Forum. This package will be used as the base design for the T4CM design collaboration.
- Attended the T4CM cost estimation kick-off meeting at AES. Provided additional data per their request. Still unable to provide AES with quad package complete information.
- Established a “team” environment within DESY’s EDMS to be used as the central CAD work location for the ILC collaboration. All CAD data will be located at DESY.
- We are designing within DESY’s EDMS system. All components are being modeled and detailed with “best practices” and will conform to ASME drafting standards, will be detailed in metric, and will use tolerances in accordance with ISO standards.

# T4CM (continued)

- A very large portion of the cryomodule has been modeled and detailed but will undergo design modifications as the quad magnet design materializes.
- Hosted a 3 day EDMS workshop here at Fermilab to discuss CAD database workflow and release processes, Vis-View applications, and to address EDMS concerns and issues.
- Working with FNAL divisions to create New Muon beamline layouts and cross-sections to help with the ordering of feed and end cans.
- Attending an engineering workshop at INFN, Pisa in September to discuss the T4CM design and to establish roles and work assignments, and to set the protocols for working within the EDMS.

# T4CM (Quad magnet package)

- The quad package is being designed and engineered by Vladimir Kashikhin (TD).
- There is currently **NO** design that can be placed in the T4CM cryomodule, thus holding up the cryomodule design process.
- Magnet design work will continue in the 2<sup>nd</sup> week of September upon Vladimir's return from Russia.
- We desperately need more resources put onto this task.
- This is a high priority task that is barely getting any attention due to the recent cost estimation work. It is critical for the completion of the T4CM design that the overall magnet package design begin to develop into a *real* design.
- Mitchell can take the lead at coordinating the design effort, but management needs to make this a high priority so that the proper resources are assigned.