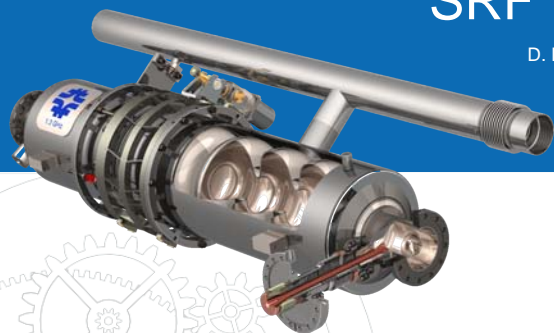
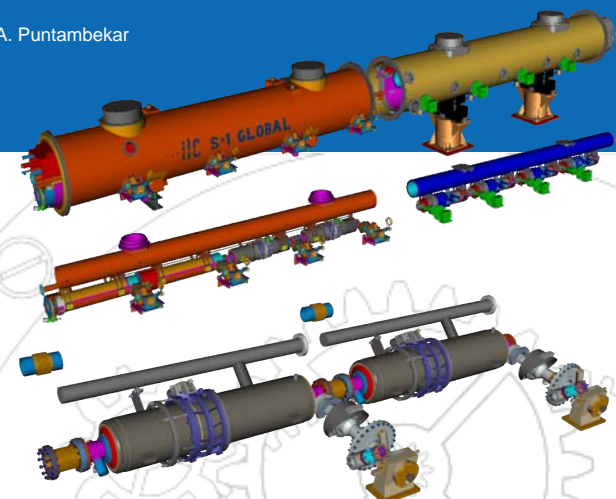


# SRF Main Linac Cryomodule Design at Fermilab

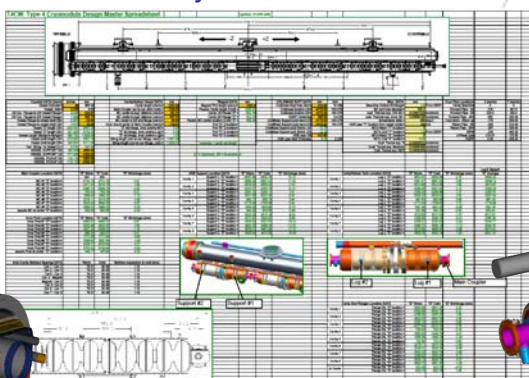
D. Mitchell, J. Dwivedi, C. Grimm, N. Higashi, J. Kerby, P. Khare, V. Mishra, N. Ohouchi, Y. Orlov, A. Puntambekar



CM1 Cryomodule at Fermilab



Fermilab deliverable to KEK in support of the S-1 Global effort to build an international cryomodule with high gradient cavities.



Excel driven 3-D models in I-DEAS

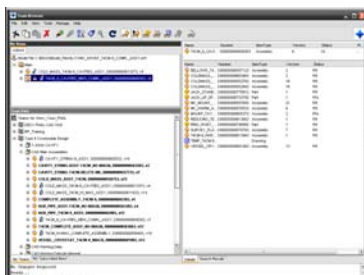
1.3 GHz Unified Cryomodule.

Options for magnets mounted at coupler positions 2, 5, and 8.

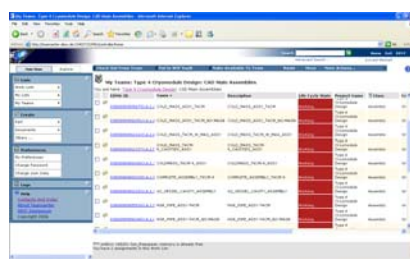
Either  $\beta 1$  or  $\beta .81$  cavities.



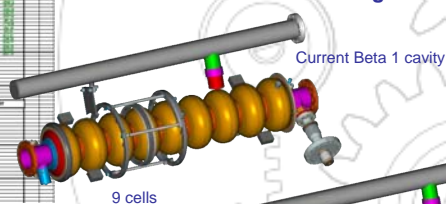
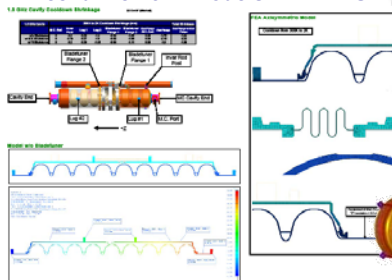
Team Center Enterprise, EDMS, hosted by DESY



CAD data access



Web data access



Current Beta 1 cavity

9 cells

Possible Beta .81

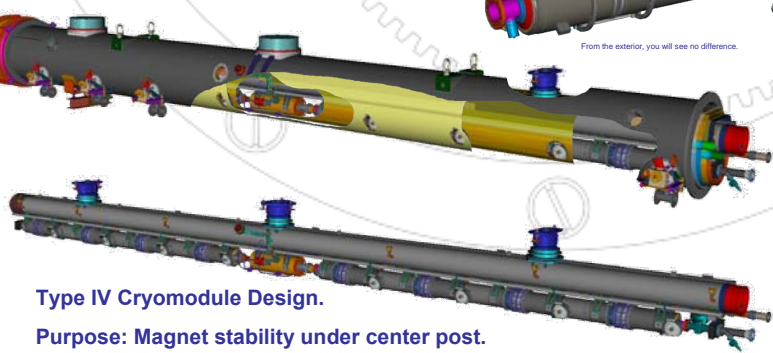
11 cells

$\beta .81$  Cavity Development

Design goals:

- Same flange-to-flange length
- Same helium vessel
- Same mounts
- Same tuner
- Same cavity spacing in vessel

From the exterior, you will see no difference.



Type IV Cryomodule Design.

Purpose: Magnet stability under center post.