**Proton Improvement Plan - II**

**Design of the 650 MHz high Beta prototype cryomodule for PIP-II at Fermilab**

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**INTRODUCTION**

The Proton Improvement Plan II (PIP-II) is the first U.S. accelerator project that will have significant contributions from international partners. The prototype High Beta 650 MHz cryomodule (pHB650 CM) is designed by an integrated design team, consisting of Fermilab (USA), CEA (France), STFC UKRI (UK), and RRCAT (India). The manufacturing & assembly of this prototype cryomodule will be done at Fermilab, whereas the production cryomodules will be manufactured and/or assembled by STFC UKRI, RRCAT, or Fermilab.

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**DESCRIPTION OF THE CRYOMODULE**

The design of the prototype High Beta 650 MHz cryomodule has been completed and the procurement phase has started. This work will be used by STFC UKRI for the assembly of the production High Beta 650 MHz cryomodules, and by CEA for the design and assembly of the pre-production and production Low Beta 650 MHz cryomodules.

The next steps of the pHB650 CM is to perform quality control after receiving the parts, assemble, test, validate the design, and implement any new lessons learned into the design optimization phase before going into production.

* Work supported by Fermi Research Alliance, LLC under Contract No. DE AC02 07 CH11359 with the United States Department of Energy