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**High-Field Superconducting Magnets Supporting PTOLEMY**

ANN HOPKINS, Pennsylvania State University, AUDREY LUO, Yale University, BENJAMIN OSHERSON, Princeton University, CHARLES GENTILE, Princeton Plasma Physics Laboratory, CHRIS TULLY, Princeton University, ADAM COHEN, Princeton Plasma Physics Laboratory — The Princeton Tritium Observatory for Light, Early Universe, Massive Neutrino Yield (PTOLEMY) is an experiment planned to collect data on Big Bang relic neutrinos, which are predicted to be amongst the oldest and smallest particles in the universe. Currently, a proof-of-principle prototype is being developed at Princeton Plasma Physics Laboratory to test key technologies associated with the experiment. A prominent technology in the experiment is the Magnetic Adiabatic Collimation with an Electrostatic Filter (MAC-E filter), which guides tritium betas along magnetic field lines generated by superconducting magnets while deflecting those of lower energies. B field mapping is performed to ensure the magnets produce a minimum field at the midpoint of the configuration of the magnets and to verify accuracy of existing models. Preliminary tests indicate the required rapid decrease in B field strength from the bore of the more powerful 3.35 T magnet, with the field dropping to 0.18 T approximately 0.5 feet from the outermost surface of the magnet.

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