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Commissioning of the Superconducting Magnets for the SHMS Spectrometer at Jefferson Lab

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The 12 GeV Upgrade Project at Jefferson Lab is complete and all new systems have met their Key Performance Parameters(KPP). The Super High Momentum Spectrometer(SHMS) in JLAB's Hall C is an 11 GeV/c particle spectrometer with a resolution of 0.5×10^{-4} , 4.4 milli Steradian acceptance and a +20 %/-10% momentum bite. All five SC magnets have been delivered, installed, cooled down, tested and all have reached and exceeded the currents required for operation at the nominal settings for 11 GeV/c. Details of the magnet's installation, testing, cryogenics, cool down, quench history and training will be presented. The equipment in Hall C consisting of the SHMS (2017) and the HMS (1994) have operated and demonstrated their Key Performance Parameters(KPP) and performed preliminary data taking experiments to qualify the new equipment. This is the conclusion of a long and very successful project.

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