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Commissioning and Calibrating Bucking Coil System for HKS Water Cerenkov Detector[1] VICTOR MAXWELL, JOERG REINHOLD, Florida International University, JEFFERSON LAB E05-115 (HES/HKS) COLLABORATION — Jefferson Lab Experiment E05-115 will perform a spectroscopic study of lambda hypernuclei for a wide mass region using the (e,e'K^+) reaction. Accurate detection of coincident kaons and electrons guarantees that a lambda hyperon has been produced within the nucleus. The High Resolution Kaon Spectrometer, whose instrumentation is composed of, among other devices, a water Cerenkov detector (WC), will be employed towards this end. The detector uses a series of photomultiplier tubes (PMT) to generate signals associated with particular events. In the fringe magnetic field of the spectrometer magnet, the PMTs' detection efficiency degrades significantly. Magnetic fields of equal strength and opposite orientation to the external field are created by applying current to bucking coils (BC) placed around the individual PMT. Data indicates a relationship between SPE emission rates, and collection efficiency distributions. Upon being placed in Hall C, this relationship has been used to set the appropriate current for each BC.

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