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High p_T Single Electrons from Heavy-Flavor Decays in $p+p$ Collisions at $\sqrt{s} = 200$ GeV and 62 GeV in the PHENIX experiment at RHIC HARRY THEMANN, Department of Physics and Astronomy, Stony Brook, PHENIX COLLABORATION¹ — The PHENIX experiment at RHIC is a high precision, high rate spectrometer. The cross section of $c\bar{c}$ and $b\bar{b}$ pairs can be determined by measuring the spectra of electrons from the semi-leptonic decays of open charm/bottom mesons. The PHENIX central arm detectors cover π in azimuth and $|\eta| < 0.35$ with excellent electron identification capability and momentum resolution. We will present the work towards the measurement of $c\bar{c}$ and $b\bar{b}$ decay electron yields from $p+p$ collisions at $\sqrt{s}=200$ GeV and 62 GeV. PHENIX published electron yield extends to $p_T = 8.5$ GeV/c for 200 GeV $p+p$ data sample. We propose to extend p_T range of measurement to beyond 10 GeV/c where the source of electrons will begin to be dominated by $b\bar{b}$ decays. Conversely, high p_T electrons in 62 GeV $p+p$ collisions should have little contribution from $b\bar{b}$. For this we use a new method to statistically subtract the background from charged pions that start to fire the Ring Imaging CHerenkov detector above 5 GeV/c as well as the addition of data from the higher integrated luminosity in 2006 run.

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